

The image contains two maps of the RYFSA Complex. The left map is a detailed site plan showing the layout of the facility. It includes several existing fields, a new field (noted as 'SEE CIVIL'), an existing parking lot, an existing concessions building, a new concessions building, and two RYFSA Score Boards. The site is bounded by East Hwy 14 to the south and 36th Ave SE to the east. The right map is a vicinity map showing the complex's location within a larger area. It identifies nearby landmarks such as the Gordon W. Yeager WMA (South East and West Units), Rochester Baseball Complex, Rochester Community and Technical College, and Eastwood Golf Course. Major roads like US-14 and US-22 are also shown. A north arrow and 'N.T.S.' (Not To Scale) are provided for both maps.

KEY PLAN

N.T.S.

VICINITY MAP

N.T.S.

TYPICAL SYMBOLS / MATERIALS

	SECTIONS		NEW DOOR DOOR NUMBER		NEW FINISH GRADE CONTOUR
	DETAILS		DEMOLITION DOOR		EXISTING FINISH GRADE CONTOUR
	EXTERIOR ELEVATIONS		EXISTING DOOR		ABANDONED FINISH GRADE CONTOUR
	INTERIOR ELEVATIONS				PROPERTY LINE
	WALL TYPE		ACOUSTICAL WALL PANEL		SETBACK OR EASEMENT LINE
	ROOM NAME ROOM NUMBER		BRICK		
	WINDOW NUMBER		CAST IN PLACE CONCRETE		
	CONSTRUCTION GRID		CONCRETE MASONRY UNIT (C.M.U.)		FINISH GRADE
			EARTH		NEW GRADE EXISTING GRADE
			GLASS BLOCK		TOP OF WALL
			GRANULAR FILL		TOP OF CURB
			GYPSUM BOARD		TOP OF PAVEMENT
			BATT INSULATION		TOP OF FOOTING
			RIGID INSULATION		
	DEMOLITION NOTE		METAL		
	CONSTRUCTION NOTE		EXISTING CONSTRUCTION		
	WORK/CONTROL POINT (SECTION ELEVATIONS, TEST BORES, BENCH MARKS)		PLYWOOD / OSB		
	REVISION		PRECAST CONCRETE		
	MATCH LINE		STONE		
			TERRAZZO		
			WOOD, FINISH		
			WOOD, ROUGH		

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CIVIL:	WIDSTEN SMITH NOLTING & ASSOC. 3777 40th AVENUE NW, STE. 200 ROCHESTER, MN 55901 VANESSA HINES, (507) 206-2136
STRUCTURAL:	WIDSTEN SMITH NOLTING & ASSOC. 510 FILLMORE STREET ALEXANDRIA, MN 56308 KENT ROHR, (320) 335-5012
MECHANICAL:	DUNHAM ENGINEERING 18 3rd STREET SW SUITE 303 ROCHESTER, MN 55902
ELECTRICAL:	DUNHAM ENGINEERING 18 3rd STREET SW SUITE 303 ROCHESTER, MN 55902



WIDSETH SMITH NOLTING
Engineering | Architecture | Surveying | Environmental

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DATE	REV#	REVISIONS DESCRIPTION	

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA

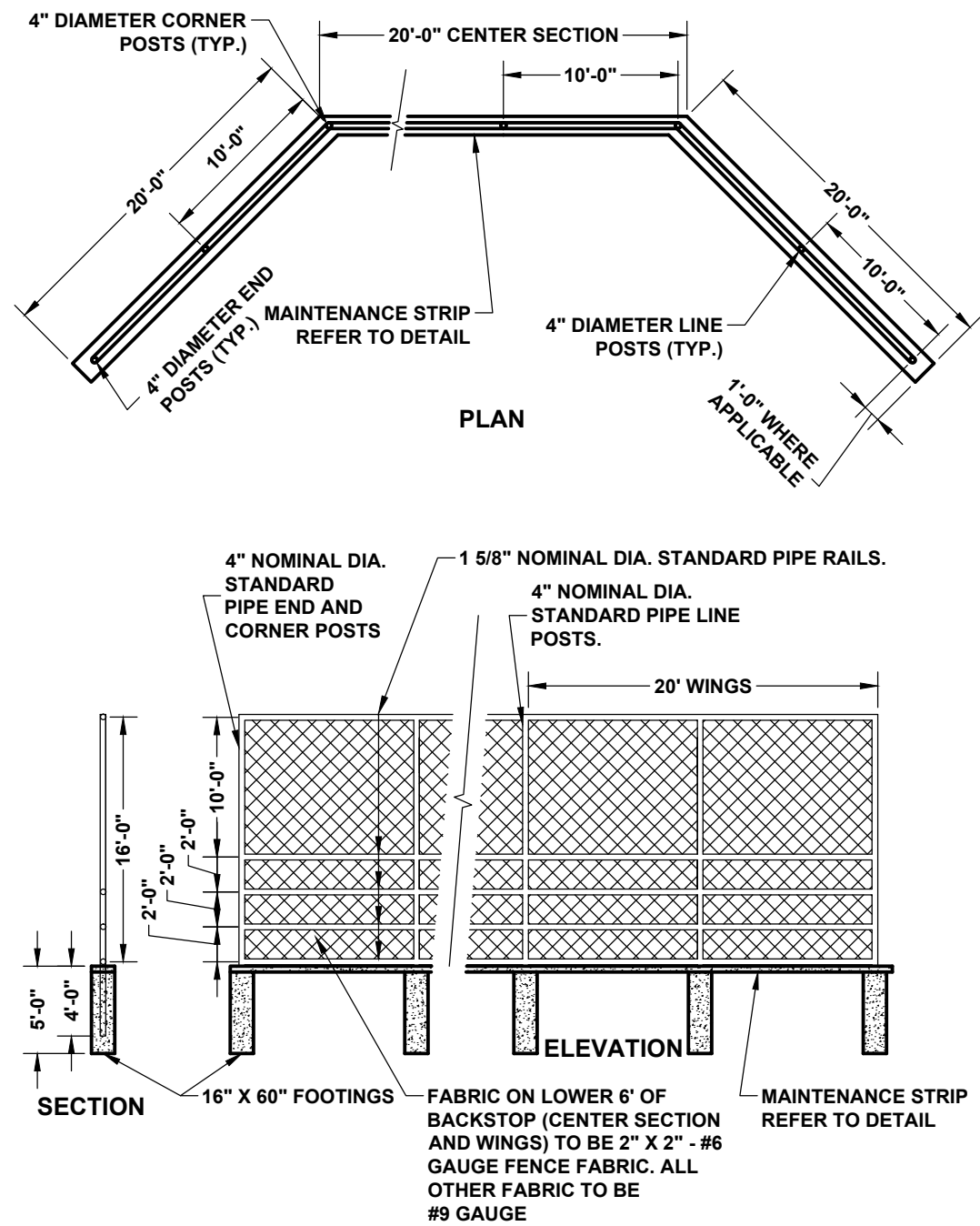
DANA J. HLEBICHUK DATE: 06/15/2016 LIC. NO. 44

DATE
JUNE 15 2016

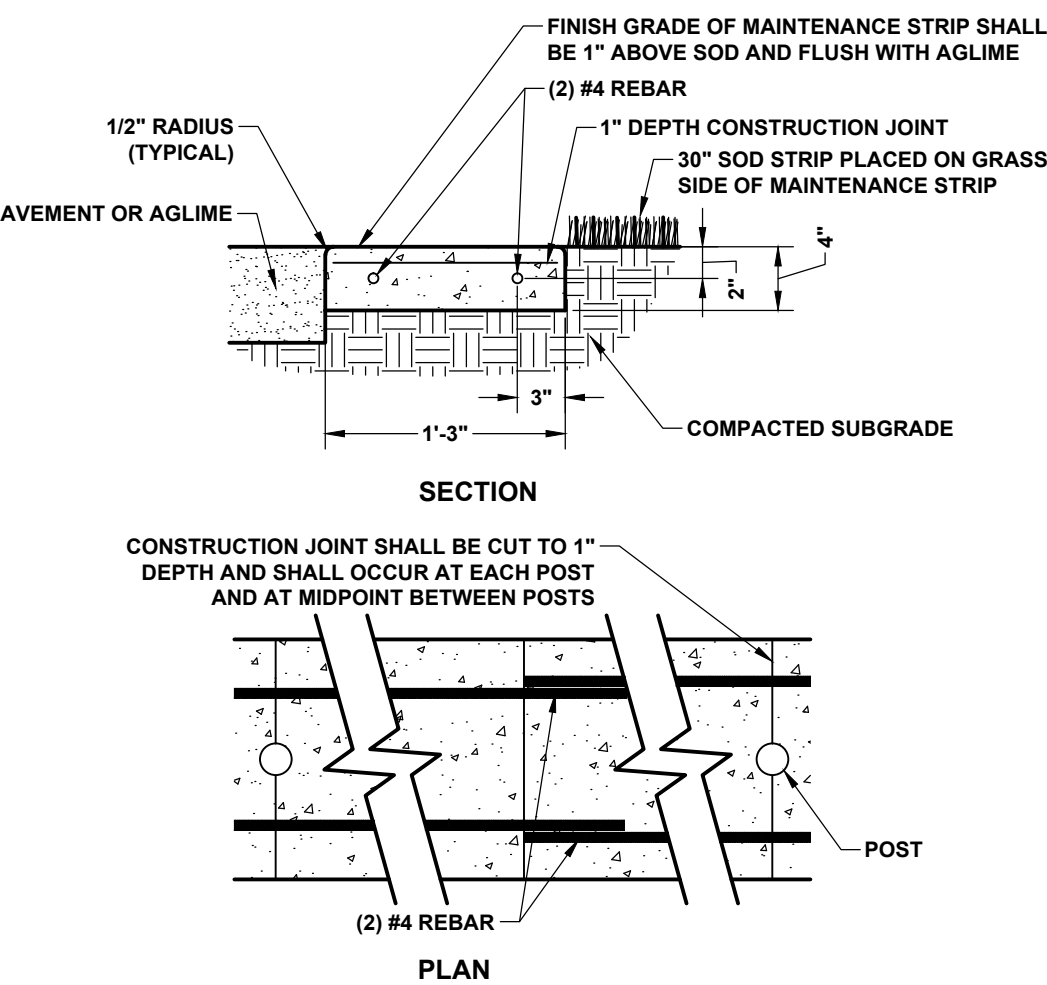
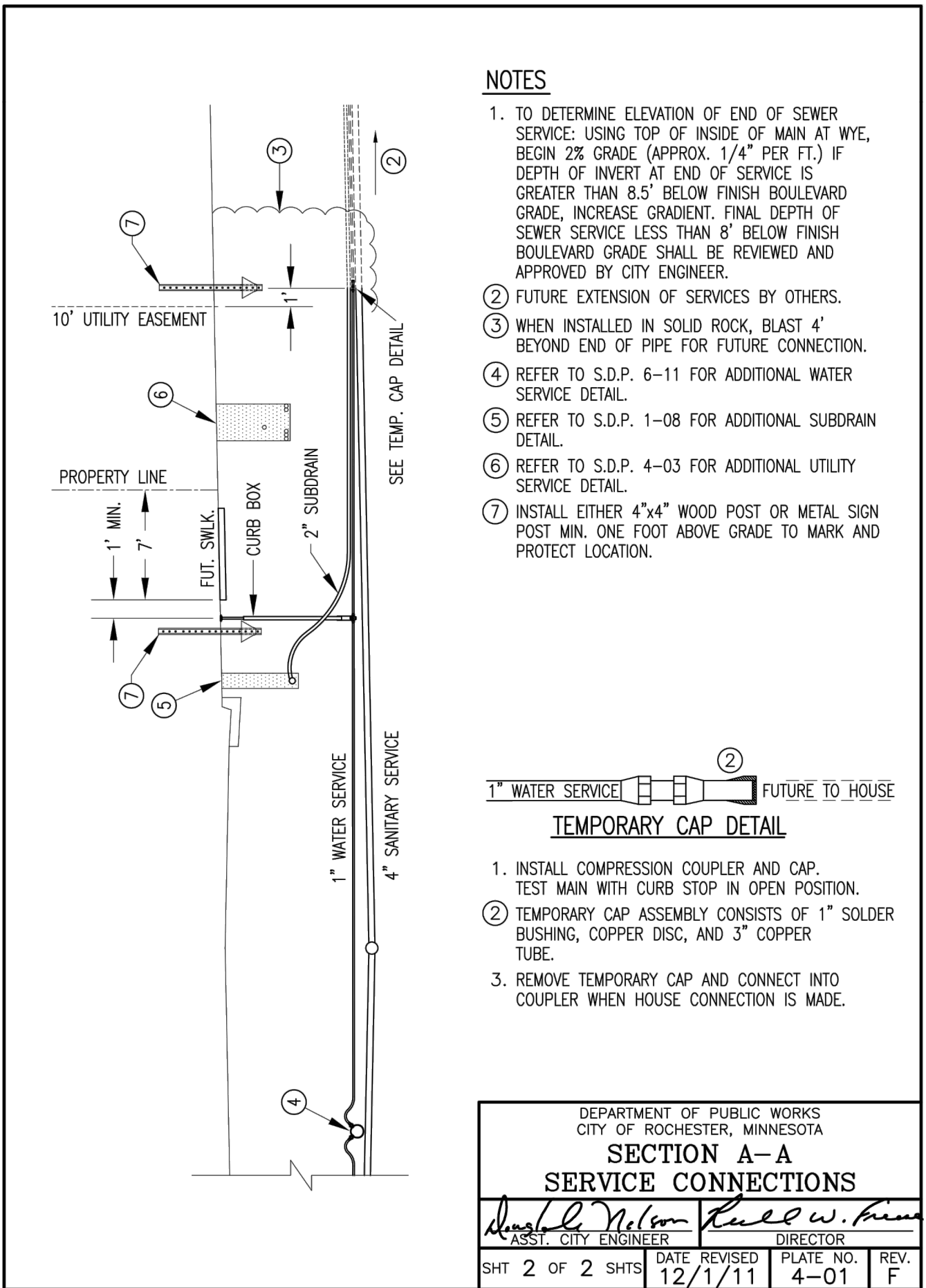
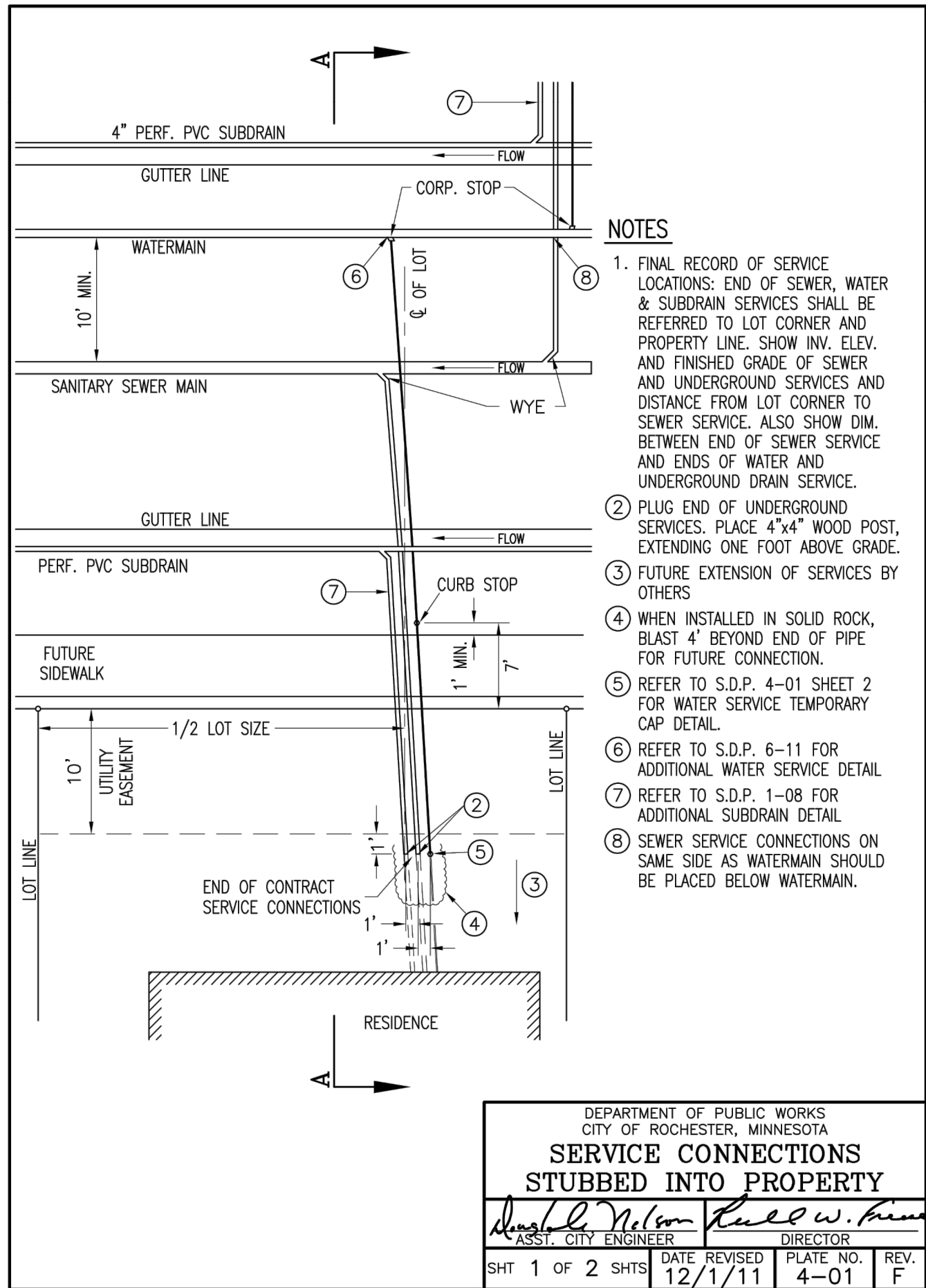
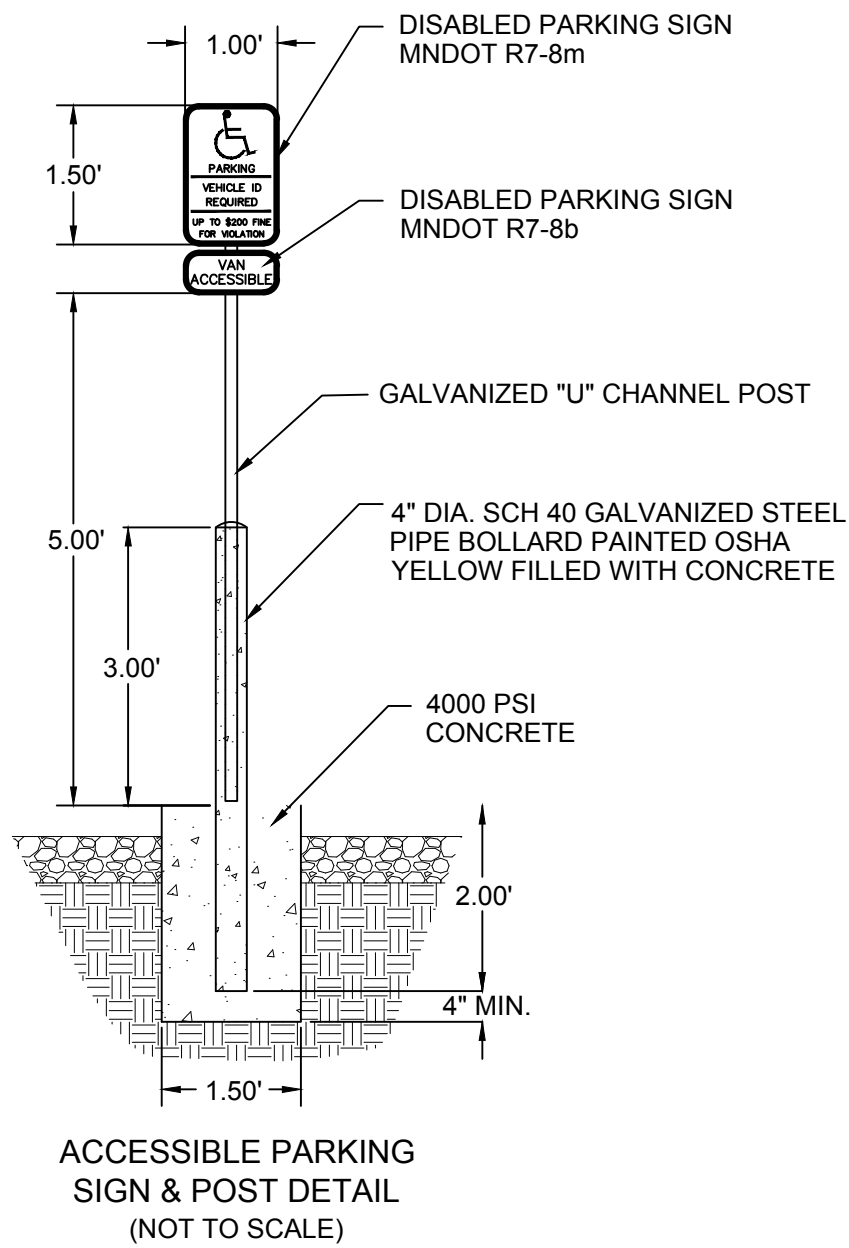
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DANA J. HLEBICHUK DATE: 06/15/2016 LIC. NO. 44

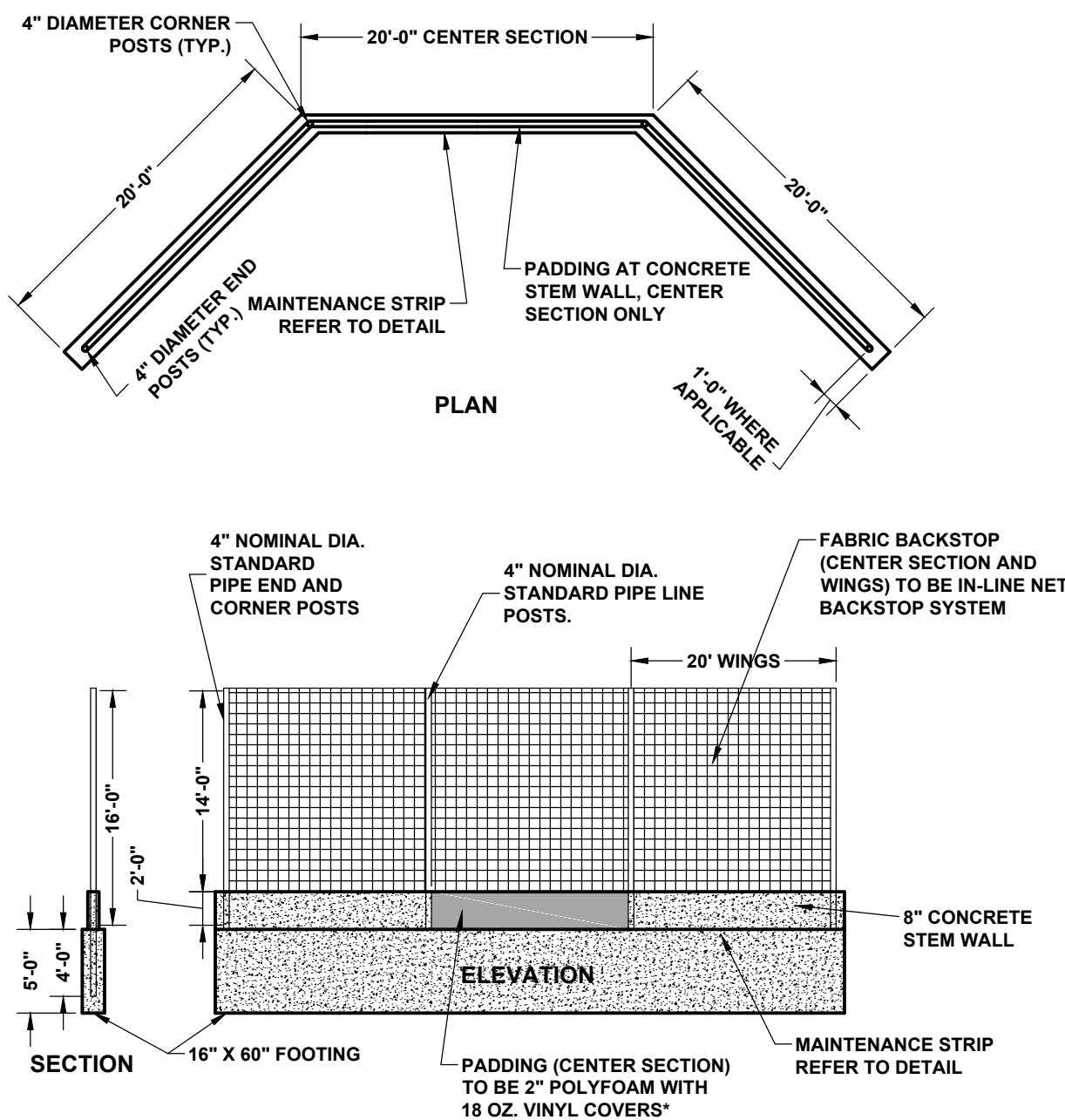
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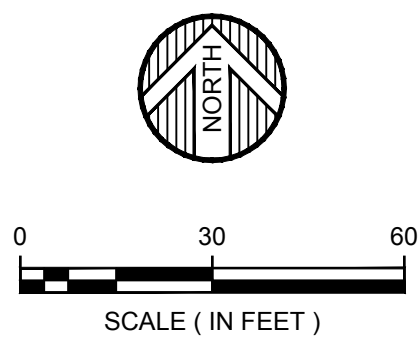
SOFTBALL BACKSTOP



CONCRETE MAINTENANCE STRIP



ALTERNATE #2:
SOFTBALL BACKSTOP NET



REMOVAL NOTES:

- 1. THE CONTRACTOR SHALL REMOVE ALL TREES AND SHRUBS WITHIN THE GRADING LIMITS, UNLESS PROTECTION OF TREES OR SHRUBS ARE SPECIFICALLY NOTED ON THE PLANS.
- 2. ALL CONCRETE CURB AND GUTTER, CONCRETE SIDEWALK, CONCRETE DRIVEWAYS AND BITUMINOUS PAVEMENT SHALL BE SAWCUT PRIOR TO REMOVAL OPERATIONS.
- 3. ALL COMMON EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR. EXCESS MATERIAL SHALL BE EXPORTED FROM THE SITE.
- 4. THE CONTRACTOR SHALL PROTECT ALL ITEMS NOT PLANNED FOR REMOVAL ON THE PROJECT.
- 5. THE CONTRACTOR SHALL REMOVE EXISTING PAVEMENT MARKINGS PER MnDOT 2102 - PAVEMENT MARKING REMOVAL.
- 6. THE CONTRACTOR SHALL PROTECT TREES, TREES TO BE REMOVED BY OTHERS.

LEGEND:

- EXISTING BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS PAVEMENT
- SAWING BIT PAVEMENT (FULL DEPTH)
- SAWING CONCRETE PAVEMENT (FULL DEPTH)
- TREE REMOVAL BY CITY OF ROCHESTER PARKS AND RECREATION DEPARTMENT



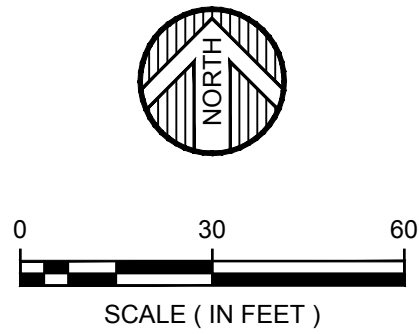
1 REMOVALS PLAN - CONCESSION STAND AND BALL FIELD
1" = 30'



ALL UNDERGROUND AND OVERHEAD UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THERE MAY BE ADDITIONAL UNDERGROUND AND OVERHEAD UTILITIES NOT SHOWN ON THE PLAN THAT MAY BE REQUIRED TO BE REMOVED. IT IS THE CONTRACTORS RESPONSIBILITY TO REQUEST A GOPHER STATE ONE CALL PRIOR TO THE START OF ANY CONSTRUCTION.

DATE	REV#	DESCRIPTION	BY

DATE:	JUNE 15, 2016
SCALE:	AS SHOWN
DRAWN BY:	B.R.B.
CHECKED BY:	INITIALS
JOB NUMBER:	1080R0037.000



SITE CAPACITY CALCULATIONS

PARCEL ID: 63.05.24.055309
ZONING DISTRICT: MRD
PROPOSED USAGE: AREA ACCESSORY
TOTAL LOT AREA: 3,791,820
TOTAL LOT ACREAGE: 87.05

FLOOR AREA RATIO : 0.40
MAX. ALLOWABLE FLOOR AREA: 1,516,728 SF
PROPOSED FLOOR AREA: 2,040 SF
MAX PERMITTED HEIGHT: NONE

SETBACKS:
FRONT YARD: 20 FT
SIDE YARD: 10 FT
REAR YARD: 12 FT

LANDSCAPE AREA: 20%
PROPOSED LANDSCAPE AREA: 89.5%

MIN. LOT SIZE: NONE
EXTERIOR LIGHTING: B
SIGN REGULATIONS: B
EXTERIOR STORAGE: T,A
BUFFERYARD INDICATOR: VI

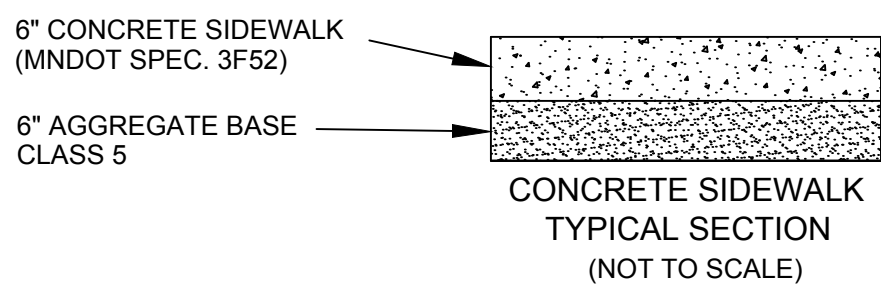
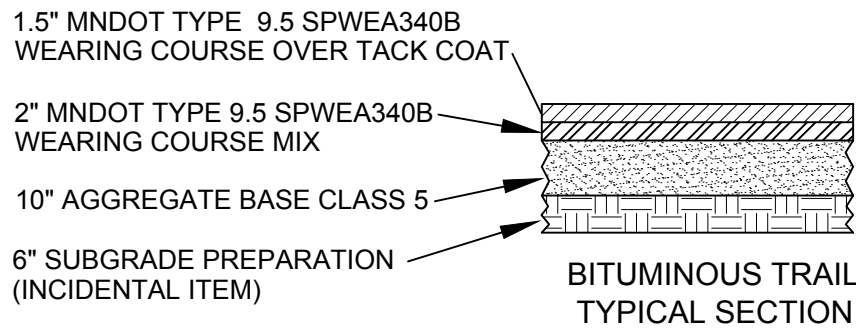
OFF STREET PARKING:
EXISTING PARKING STALLS: 179 STALLS
PROPOSED PARKING STALLS: 176 STALLS

	DENOTES FENCE - CHAIN LINK
	DENOTES EXISTING STORM SEWER
	DENOTES EXISTING WATERMAIN
	DENOTES EXISTING UNDERGROUND ELECTRIC
	DENOTES PROPOSED SANITARY SERVICE
	DENOTES PROPOSED STORM SEWER
	DENOTES PROPOSED WATER SERVICE
	DENOTES PROPOSED ELECTRICAL CONDUIT
	DENOTES TREE CONIFER
	DENOTES TREE DECIDUOUS
	DENOTES DOUBLE SIGN POST
	DENOTES SANITARY MANHOLE
	DENOTES 4" SANITARY CLEANOUT
	DENOTES WATER CURB STOP
	DENOTES STORM INLET
	DENOTES STORM MANHOLE
	DENOTES ELECTRIC METER
	DENOTES ELECTRIC PEDISTAL
	DENOTES PROPOSED CONCRETE PAVING
	DENOTES PROPOSED BITUMINOUS PAVING

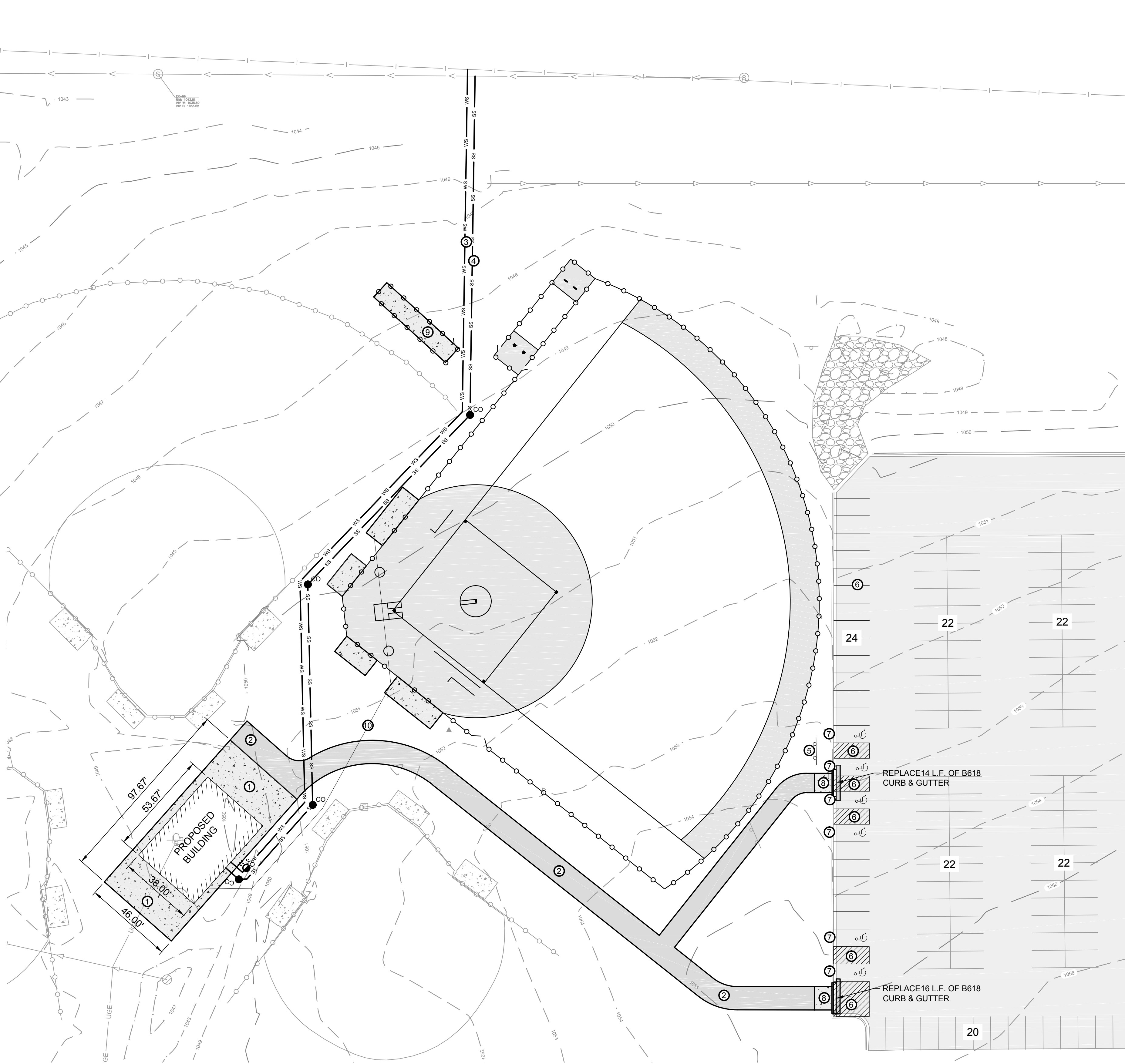
ITEM NOTES:

- 1 CONCRETE PAVEMENT - 6" THICKNESS
- 2 BITUMINOUS TRAIL - 12'
- 3 F&I 1.5" PE WATER SERVICE (ASTM D2239)
- 4 F&I 4" PVC SANITARY SERVICE (ASTM D3034)
- 5 MONUMENT SIGN
- 6 PAVEMENT MARKINGS - 4" SOLID LINE WHITE (PAINT)
- 7 ACCESSIBLE PARKING SIGN (SEE DETAIL)
- 8 STAINED CONCRETE - 6" THICKNESS
- 9 ALTERNATE 1 - 4" CONCRETE PAD
- 10 ALTERNATE 3 - 2" ELECTRICAL CONDUIT

NOTE: MAINTAIN MINIMUM 1.5' VERTICAL SEPARATION BETWEEN SEWER (SANITARY AND STORM) AND WATER MAIN.



PARCEL ID: 63.05.24.055309
SITE ADDRESS: 827 36TH AVENUE SE
ROCHESTER, MINNESOTA 55904
OWNER: ROCHESTER COMMUNITY AND TECHNICAL COLLEGE
851 30TH AVENUE SE
ROCHESTER, MINNESOTA 55904
CONTACT: SHAYNE JENSSON
PH: (507) 280-2955
PROJECT LEAD: ROCHESTER PARKS AND RECREATION
201 4TH STREET SE, ROOM 150
ROCHESTER, MINNESOTA 55904
CONTACT: MIKE NIGBUR
PH: (507) 328-2541
CIVIL ENGINEER: WIDSETH SMITH NOLTING
3777 40TH AVENUE NW, SUITE 200
ROCHESTER, MINNESOTA 55901
CONTACT: VANESSA HINES
PH: (507) 292-8743



REPLACE 14 L.F. OF B618 CURB & GUTTER

REPLACE 16 L.F. OF B618 CURB & GUTTER



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1 SITE PLAN - CONCESSION STAND AND BALL FIELD
1" = 30'



DATE	REV#	REVISIONS DESCRIPTION	BY

DATE:	JUNE 15, 2016
SCALE:	AS SHOWN
DRAWN BY:	B.R.B.
CHECKED BY:	V.L.H.
JOB NUMBER:	1080R0037.000

- ① 10' CHAINLINK FENCE
- ② BACKSTOP - 16' CHAINLINK FENCE
- ③ 6" CONCRETE PAD
- ④ WARNING TRACK
- ⑤ SKINNED INFIELD

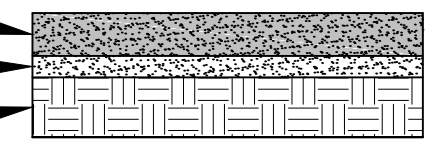
MnDOT STANDARD PLATES

9322K	CHAIN LINK FENCE: DESIGN 72-9322 WITH TOP RAIL
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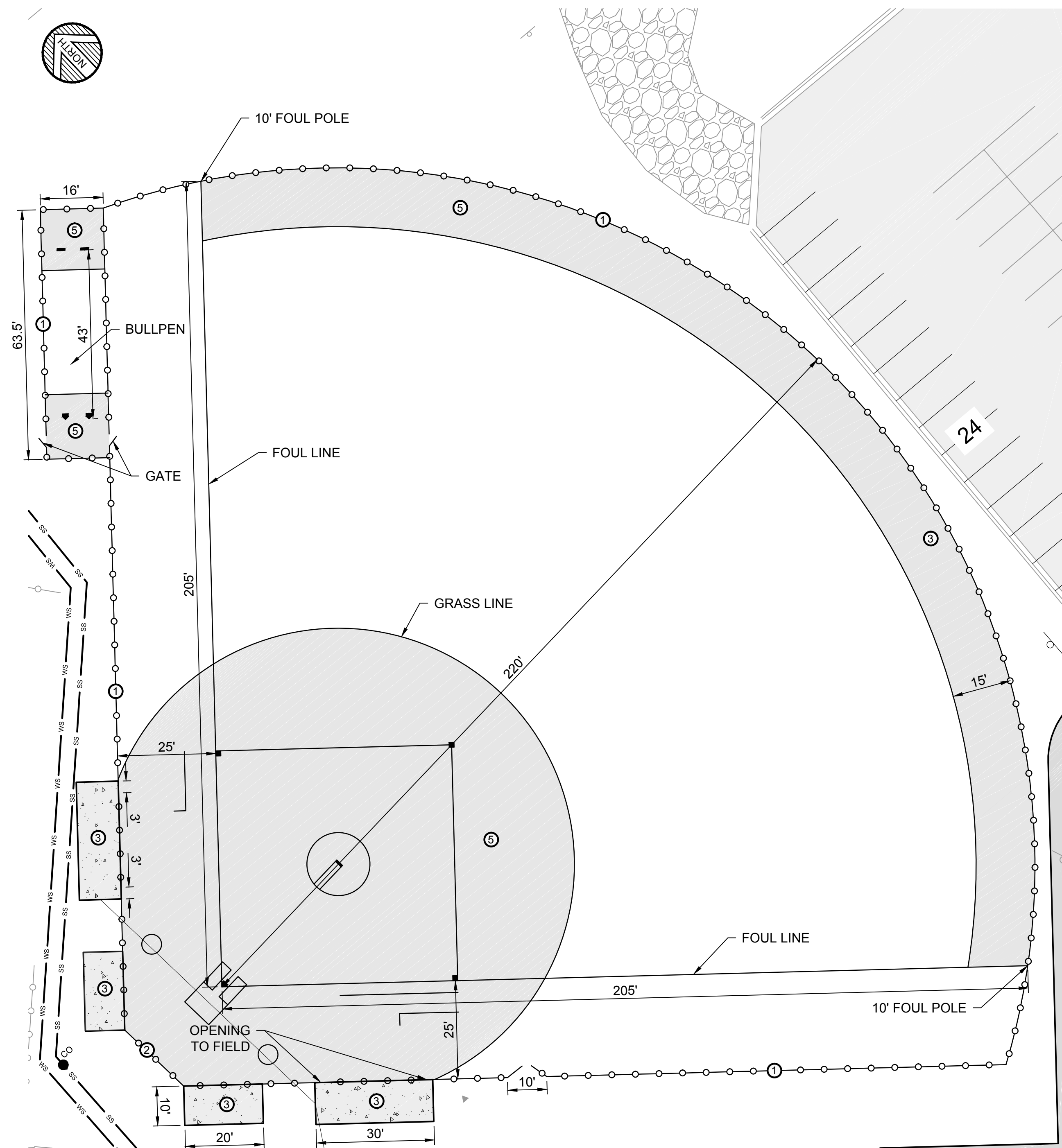
4" RED BALL DIAMOND
AGGREGATE

2" WHITE OR TAN AG LIME

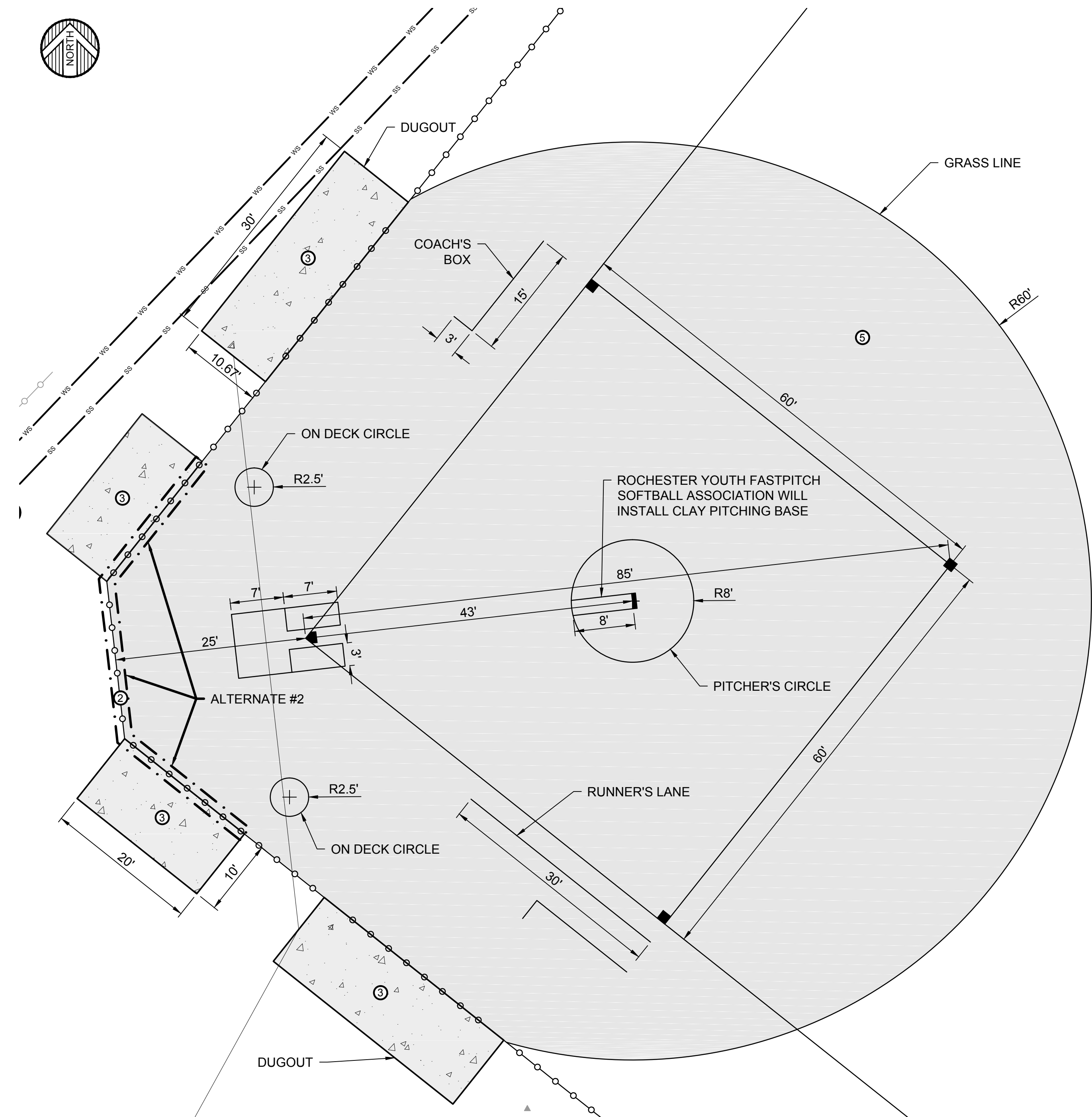
6" SUBGRADE PREPARATION
(INCIDENTAL ITEM)



SKINNED INFIELD &
WARNING TRACK
TYPICAL SECTION
(NOT TO SCALE)



1 SITE PLAN - BALL FIELD
1" = 20'

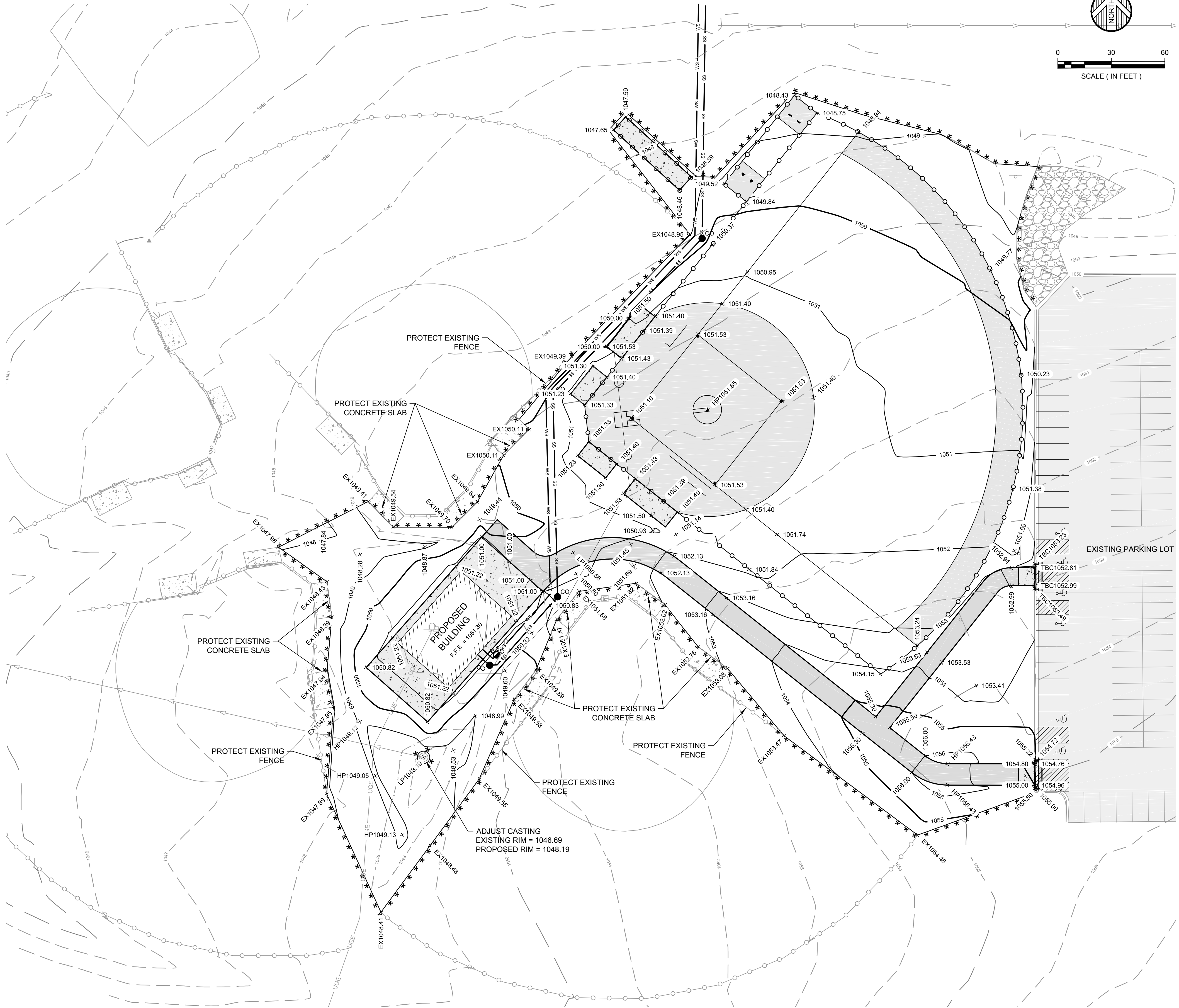


2 SITE PLAN - CONCESSION STAND AND BALL FIELD
1" = 10'

GRADING & GENERAL NOTES:

1. AN NPDES PERMIT SHALL BE APPLIED FOR BY THE OWNER AND CONTRACTOR IF DISTURBED AREA EXCEEDS 1 ACRE: AN NPDES PERMIT WILL BE REQUIRED FOR THIS PROJECT.
 2. ALL EROSION CONTROL AND SILTATION CONTROL SHALL COMPLY WITH THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA) WATER QUALITY IN URBAN AREAS MANUAL AND THE REGULATIONS OF THE CITY OF ROCHESTER AND OLMDSTED COUNTY.
 3. SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S), WHICH PREVENT SEDIMENT FROM ENTERING A WATER OF THE STATE, SHALL BE ESTABLISHED BEFORE LAND DISTURBING OPERATIONS BEGIN AND SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.
SILT FENCE - CITY OF ROCHESTER STANDARD PLATE 7-019
INLET PROTECTION - CITY OF ROCHESTER STANDARD PLATE 7-05C
TEMPORARY ROCK CONSTRUCTION ENTRANCE - CITY OF ROCHESTER STANDARD PLATE 7-06D
CONCRETE WASHOUT AREA - MNDOT STANDARD PLATE
 4. TEMPORARY STABILIZATION - TOPSOIL STOCK PILES AND DISTURBED SOIL AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 14 DAYS WILL BE STABILIZED WITH TEMPORARY SEEDING AND MULCH NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THAT AREA. THE TEMPORARY SEED SHALL BE RYE (GRAIN) APPLIED AT THE RATE OF 100 LBS PER ACRE. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH TWO (2) TONS PER ACRE OF STRAW. THE STRAW MULCH IS TO BE TACKED INTO PLACE BY A DISK WITH THE BLADES SET NEARLY STRAIGHT.
 5. ALL DISTURBED PERVIOUS AREAS SHALL BE HYDROSEEDING (MNDOT 25-151) UNLESS OTHERWISE NOTED OR SHOWN IN PLANS. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SEEDING SHALL BE PER THE MNDOT SEEDING MANUAL.
 6. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER.
 7. PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER OR OUTLET.
 8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SEDIMENT DOES NOT LEAVE THIS SITE. IT IS REQUIRED THAT THE CONTRACTOR INSTALL A STABILIZED VEHICLE EXIT TO KEEP SEDIMENT TRACKING TO A MINIMUM. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY UNTIL ACCEPTANCE OF THE WORK BY THE OWNERS.
 9. ANY DEPOSITING OF SEDIMENT OR DEBRIS ON NEW OR EXISTING PAVEMENT, OR IN EXISTING STORM SEWERS SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED. ANY TRACKING OF SEDIMENT OR DEBRIS FROM CONSTRUCTION TRAFFIC ONTO PUBLIC RIGHT OF WAY SHALL BE REMOVED BY THE END OF EACH WORK DAY AND AFFECTED AREAS CLEANED.
 10. THE CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS AFTER RAIN EVENTS FOR DAMAGE TO EROSION CONTROL DEVICES. IF DAMAGED OR INEFFECTIVE EROSION CONTROL DEVICES ARE DISCOVERED, THEY SHALL BE REPAIRED OR REPLACED. THE CONTRACTOR SHALL MAINTAIN INSPECTION RECORDS, WHICH INCLUDE DATE AND TIME OF INSPECTIONS, DATES OF RAINFALL EVENTS, FINDINGS OF INSPECTIONS, CORRECTIVE ACTIONS TAKEN (INCLUDING DATES AND TIMES), AND DOCUMENTATION OF ANY CHANGES TO THE TEMPORARY OR PERMANENT EROSION CONTROL PLANS MADE DURING CONSTRUCTION.
 11. STORM WATER RUNOFF FROM THE FIELD WILL BE COLLECTED IN THE PONDING BASIN NORTH OF THE PARKING LOT. STORMWATER RUNOFF FROM THE BUILDING SITE WILL BE COLLECTED IN THE EXISTING STORM SEWER ON THE SITE. THE STORMWATER WILL INFILTRATE AND EVENTUALLY OUTLET TO THE POND IN THE NORTHWEST CORNER OF THE PARCEL.
 12. CONTRACTOR IS RESPONSIBLE FOR ALL SITE CLEARING, GRUBBING AND REMOVALS WHICH WILL INCLUDE THE FOLLOWING: BITUMINOUS PAVEMENT, CURB AND GUTTER, LANDSCAPING AND TREES. THE CONTRACTOR SHALL COORDINATE UTILITY WORK WITH THE LOCAL UTILITY COMPANIES AND LIGHTING CONTRACTOR (SEPARATE CONTRACT).
- REMOVAL OF PAVEMENT AND MISCELLANEOUS STRUCTURES SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF MNDOT 2104.
13. ALL PROPOSED ELEVATIONS ARE TO TOP OF PAVING OR FINISHED GRADE, UNLESS NOTED OTHERWISE. PROPOSED ELEVATIONS ARE INTENDED TO PROVIDE POSITIVE DRAINAGE TOWARDS CATCH BASINS AND/OR OUTLETS. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE REQUIRED ELEVATIONS, WHICH WILL PROMOTE POSITIVE DRAINAGE THROUGHOUT THE PROJECT SITE.
 14. THE SITE HAS NOT NECESSARILY BEEN DESIGNED TO BALANCE THE ON-SITE MATERIALS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EARTHWORK QUANTITY ON THIS SITE. EXCESS MATERIAL, IF ANY SHALL BE DISPOSED OF OFF-SITE. THE CONTRACTOR SHALL IMPORT SUITABLE MATERIAL AS NEEDED.
 15. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE CITY DEPARTMENTS AND UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING UTILITIES.
 16. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION.
 17. SAFETY NOTICE TO CONTRACTORS: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR THE DEVELOPER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON OR NEAR THE CONSTRUCTION SITE.
 18. CONTRACTOR TO MAINTAIN 2.0% MAX. CROSS SLOPE ON ALL SIDEWALK.
 19. PROVIDE A 2 FOOT TAPER SECTION ON ALL CURB TERMINI UNLESS OTHERWISE NOTED.
 20. MAINTAIN MINIMUM 1.5' VERTICAL SEPARATION BETWEEN SEWER (SANITARY AND STORM) AND WATER MAIN.

1035	DENOTES PROPOSED CONTOUR ANNOTATION
x 1035.00	DENOTES PROPOSED GUTTER OR FINISH ELEVATION (UNLESS OTHERWISE NOTED)
→	DENOTES PROPOSED DRAINAGE ARROW
SS	DENOTES PROPOSED SANITARY SEWER SERVICE
WS	DENOTES PROPOSED WATER MAIN SERVICE
*****	DENOTES PROPOSED SILT FENCE
⊙	DENOTES PROPOSED INLET PROTECTION
▨	DENOTES PROPOSED CONCRETE PAVING
▩	DENOTES PROPOSED BITUMINOUS PAVING
▨	DENOTES PROP EROSION CONTROL BLANKET (CAT 3)
—>	DENOTES EXISTING SANITARY SEWER
—▷	DENOTES EXISTING STORM SEWER
—	DENOTES EXISTING WATER MAIN
—UG	DENOTES EXISTING UNDERGROUND ELECTRIC
○—○	DENOTES FENCE - CHAIN LINK



1 GRADING PLAN - CONCESSION STAND AND BALL FIELD
1" = 30'

CAUTION

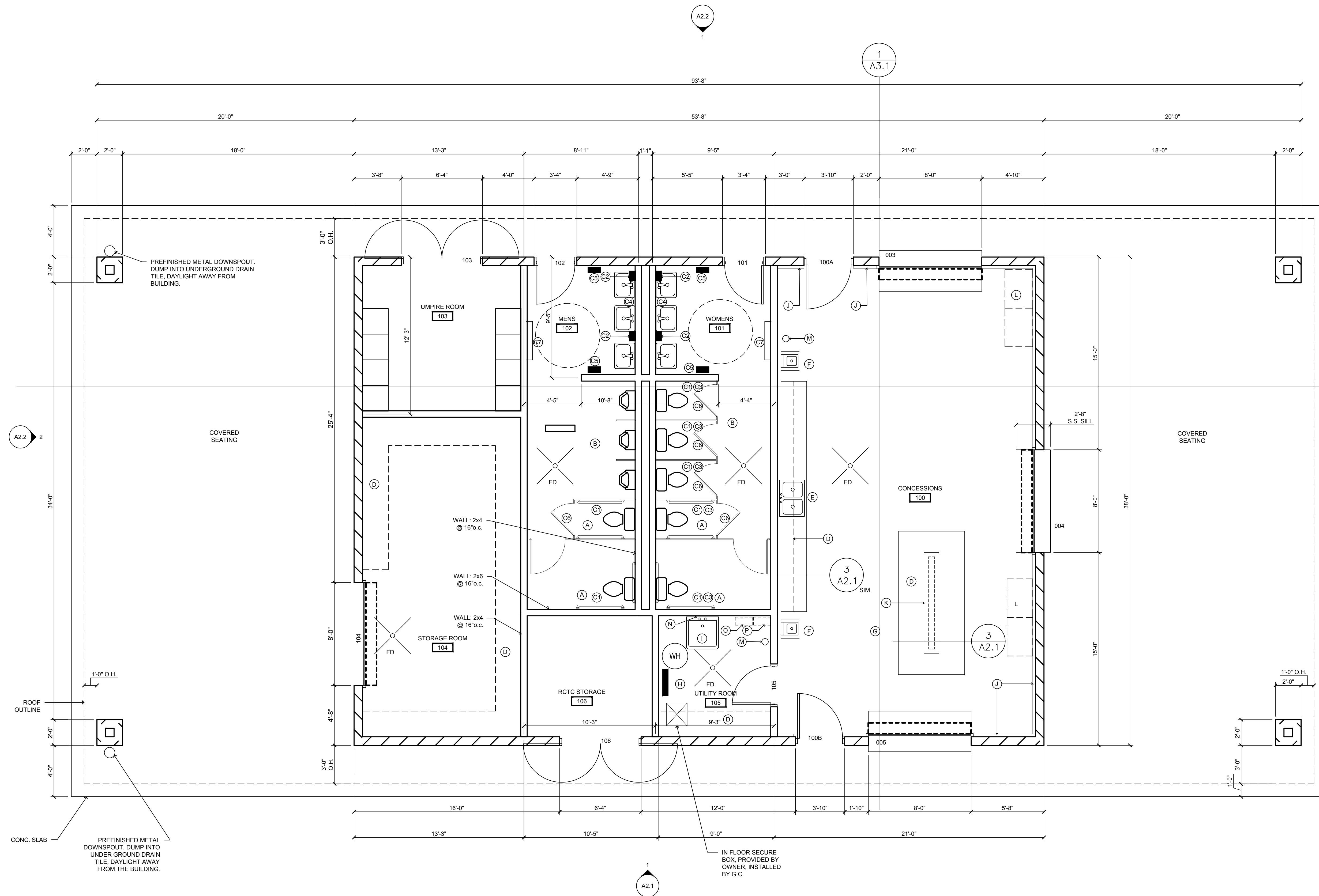
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VARESSA L. HINES
DATE: 06/15/2016 UC NO. 52899

DATE	REV	DESCRIPTION	BY

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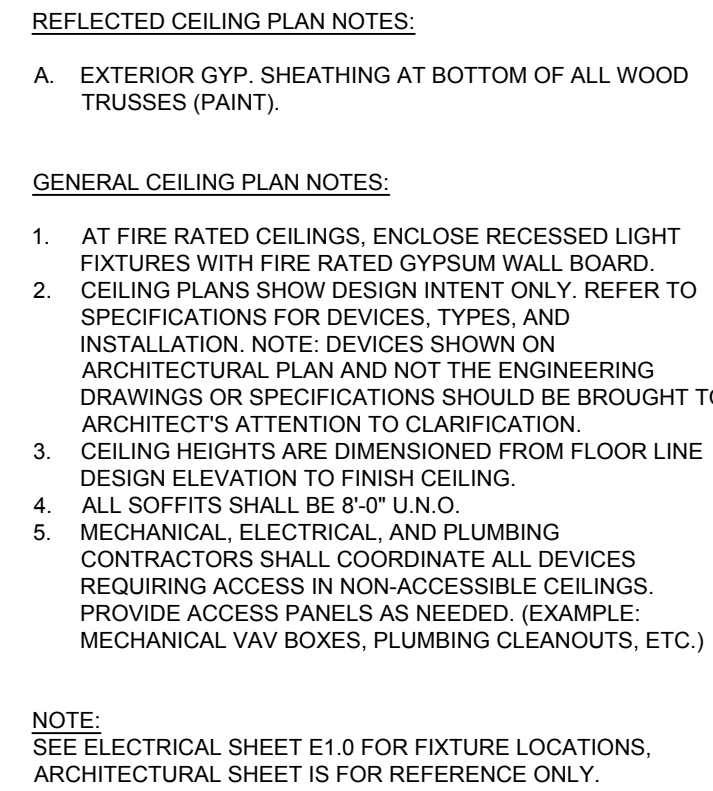
PLAN NOTES:

- A: STAINLESS STEEL HANDCAPPED GRAB BARS.
- B: PLASTIC TOILET PARTITIONS, FLOOR AND CEILING MOUNTED
- C: BOBBICK SURFACE MOUNTED TOILET ACCESSORIES (OR SIMILAR)
- C.1. B-272 - TOILET PAPER DISPENSER (1ea STALL)
- C.2. B-271 - SOAP DISPENSER (2ea ROOM)
- C.3. B-570 - SANITARY NAPKIN DISPOSAL (1ea WOMENS STALL)
- C.4. B-290 - MIRROR (3ea ROOM)
- C.5. B-700 - HAND DRYER (2ea ROOM)
- C.6. B-671 - HOOK (1ea STALL)
- C.7. KB101-00 - BABY CHANGING STATION (1ea C.B.)
- D: SHELVEING BY RYFSA.
- E: STAINLESS STEEL TWO COMP. SINK
- F: STAINLESS STEEL HAND SINK WITH PAPER TOWEL DISP.
- F-262, FINGER NAIL BRUSH, SOAP DISP. B-212. PROVIDE 24" STAINLESS STEEL SPLASH GUARD EACH SIDE.
- G: SURFACE MOUNTED CONDUTITS AND OUTLETS, COORDINATE WITH OWNER AND EQUIPMENT SUPPLIER FOR LOCATIONS AND HEIGHT.
- H: ELECTRICAL PANEL
- I: FLOOR MOUNTED MOP SINK.
- J: WALLS AT KITCHEN; 1/2" METAL FURRING WITH EXTERIOR GYPSUM BOARD AND REINFORCED FIBERGLASS PANELS CONTINUOUS FROM FLOOR TO CEILING.
- K: 42" W. WALL WITH OUTLETS ABOVE COUNTER TOP, BOTH SIDES OF WALL.
- L: EQUIPMENT BY OWNER.
- M: FIRE EXTINGUISHER.
- N: STAINLESS STEEL MOP HOLDER AND SHEL.F.
- O: RPZ
- P: WATER METER.

GENERAL PLAN NOTES:

1. ALL EXTERIOR WALLS ARE 8" CMU, BURNISHED ON THE EXTERIOR, PAINTED ON THE INTERIOR.
2. EPOXY PAINT WALLS AT TOILET ROOMS
3. SOFFIT VENTS AT PERIMETER OF ROOF.

1 FLOOR PLAN - CONCESSIONS
1/4" = 1'-0"



NOTE:
SEE ELECTRICAL SHEET E1.0 FOR FIXTURE LOCATIONS,
ARCHITECTURAL SHEET IS FOR REFERENCE ONLY.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT
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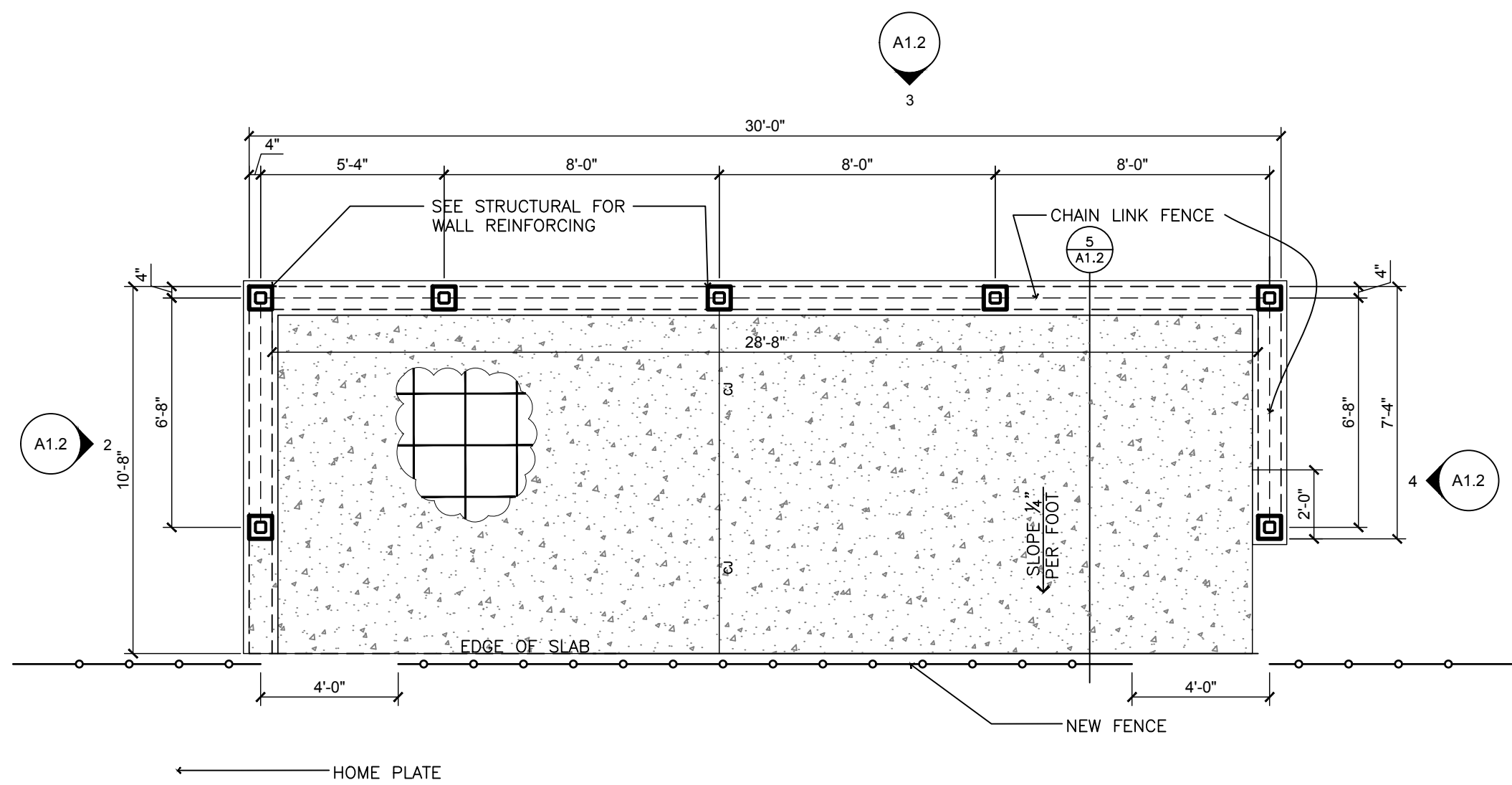
Dana Vanich

DANA VANICHUK DATE: 06/15/2016 LIC. NO. 44719

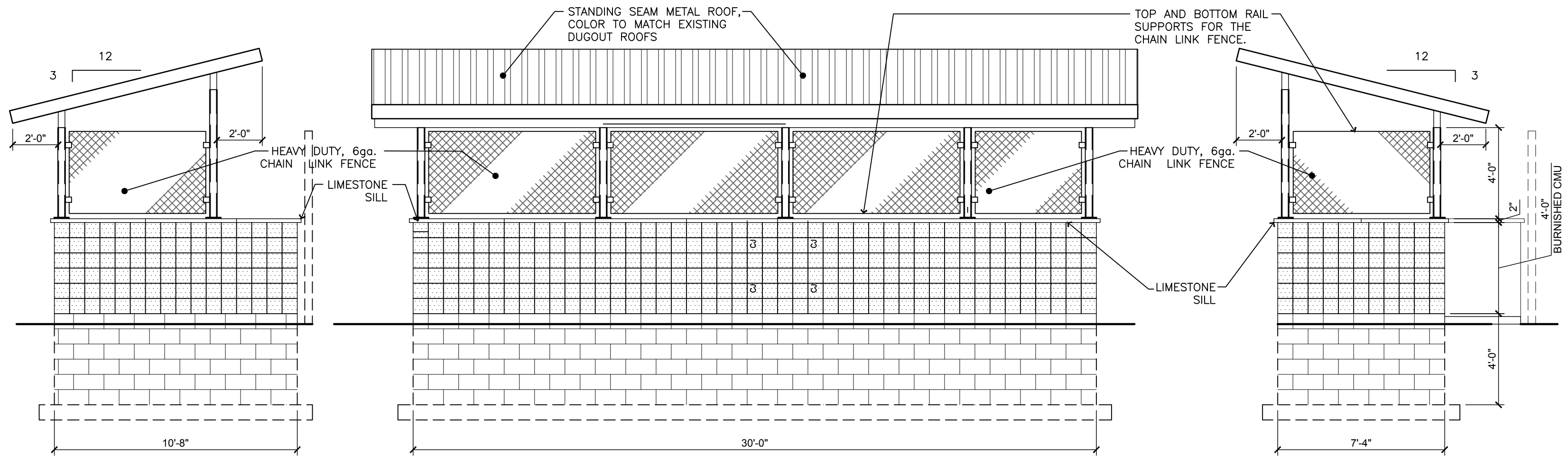
RYFSA SPORTS COMPLEX	REFLECTED CEILING PLAN - CONCESSIONS
ROCHESTER COMMUNITY AND TECHNICAL COLLEGE	
ROCHESTER, MINNESOTA 55904	

SHEET NO.
A1.2

SHEET OF



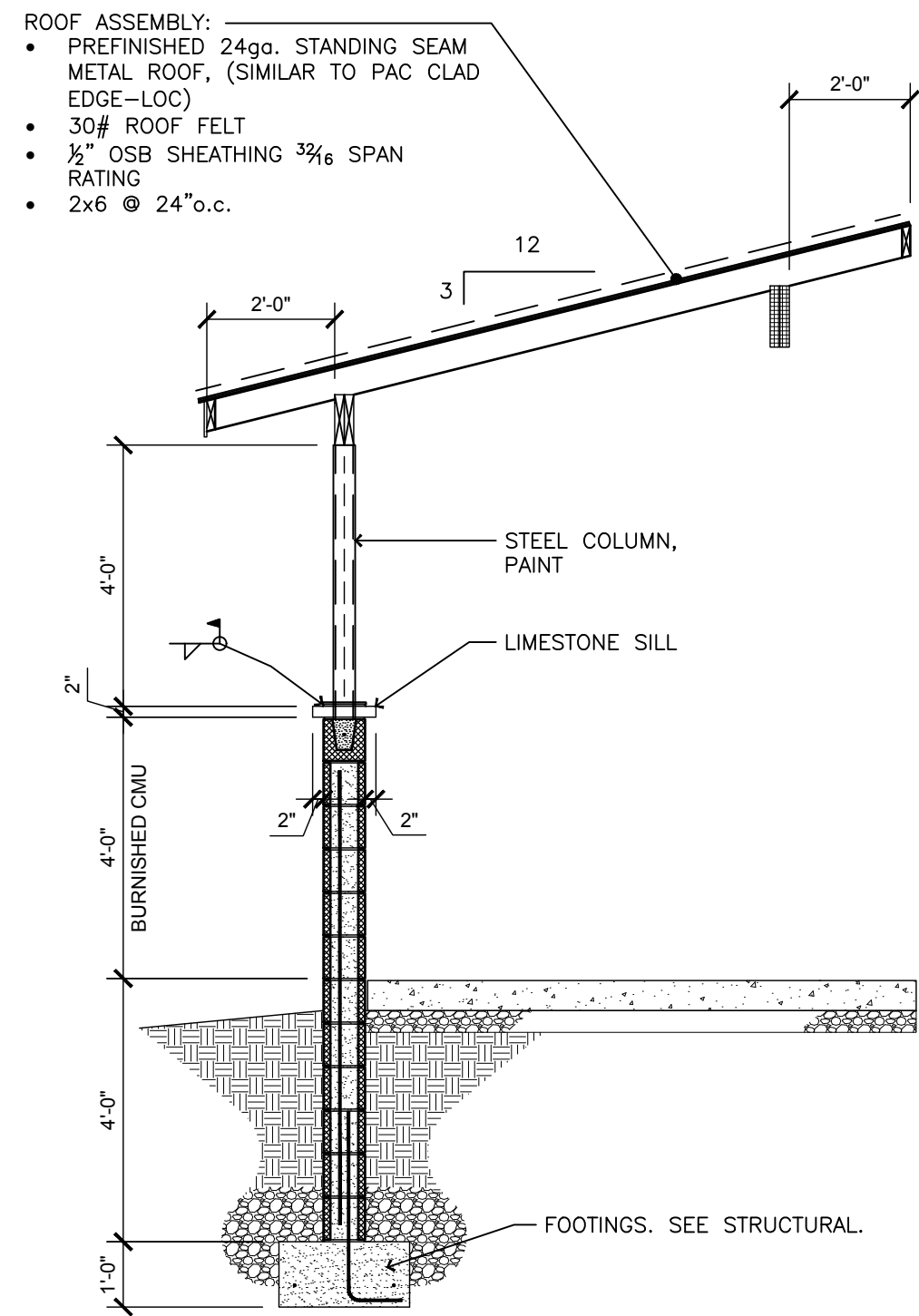
1 FLOOR PLAN - DUGOUT
1/4" = 1'-0"



2 ELEVATIONS - DUGOUT
1/4" = 1'-0"

3 ELEVATIONS - DUGOUT
1/4" = 1'-0"

4 ELEVATIONS - DUGOUT
1/4" = 1'-0"



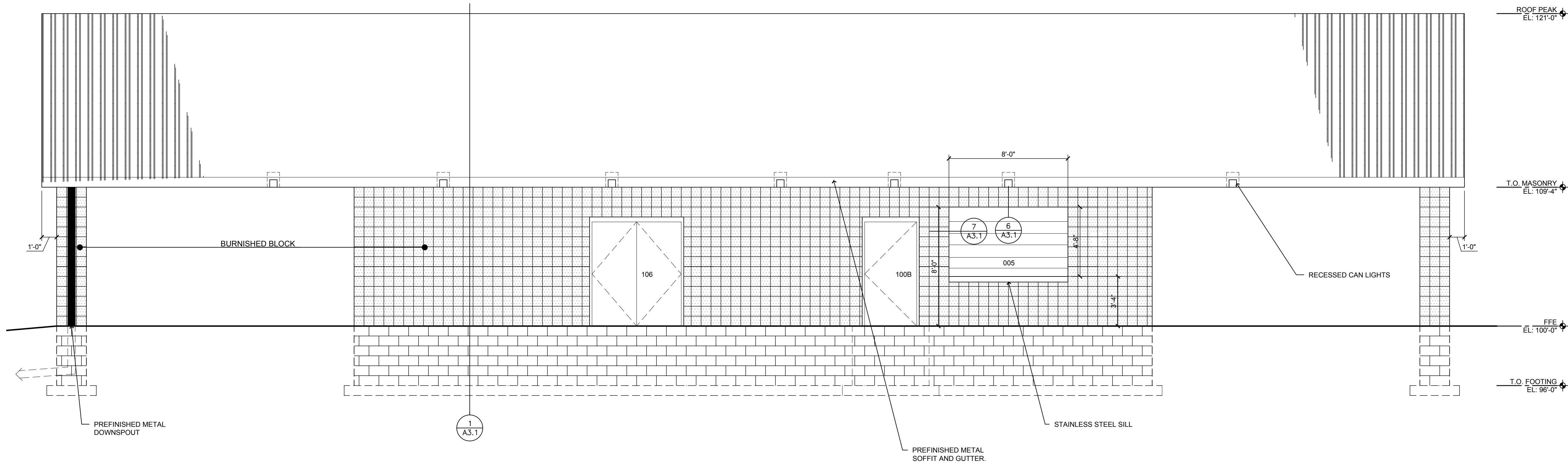
5 SECTION - DUGOUT
3/8" = 1'-0"



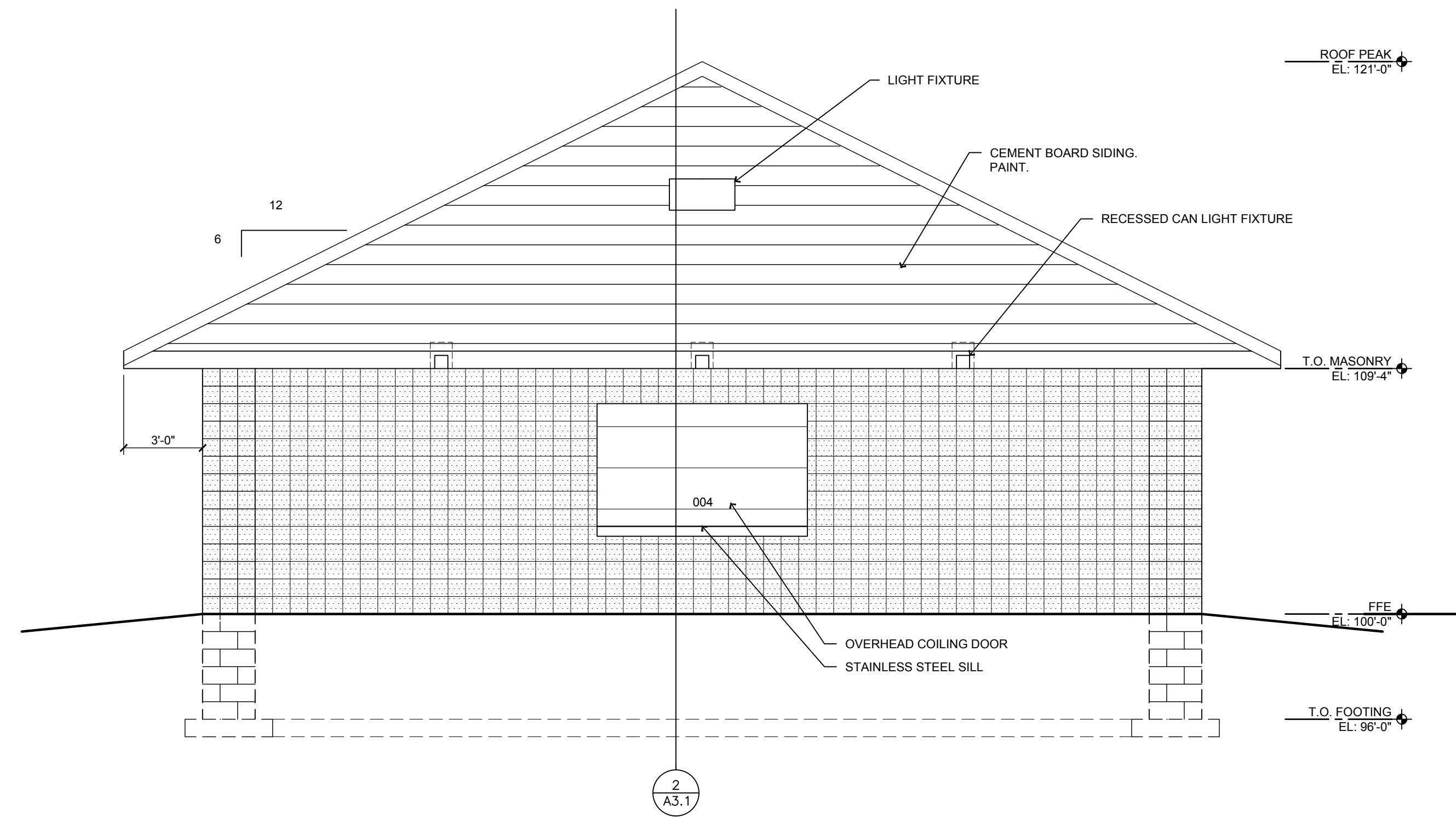
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MINNESOTA.
Rana Widsith
RANA WIDSETH SMITH NOLTING
DATE: 06/16/2016 LC NO. 44719

DATE	REV	DESCRIPTION	BY
JUNE 16, 2016		AS SHOWN	ARS
		CHECKED BY:	DJH
		JOB NUMBER:	1080R0037.000

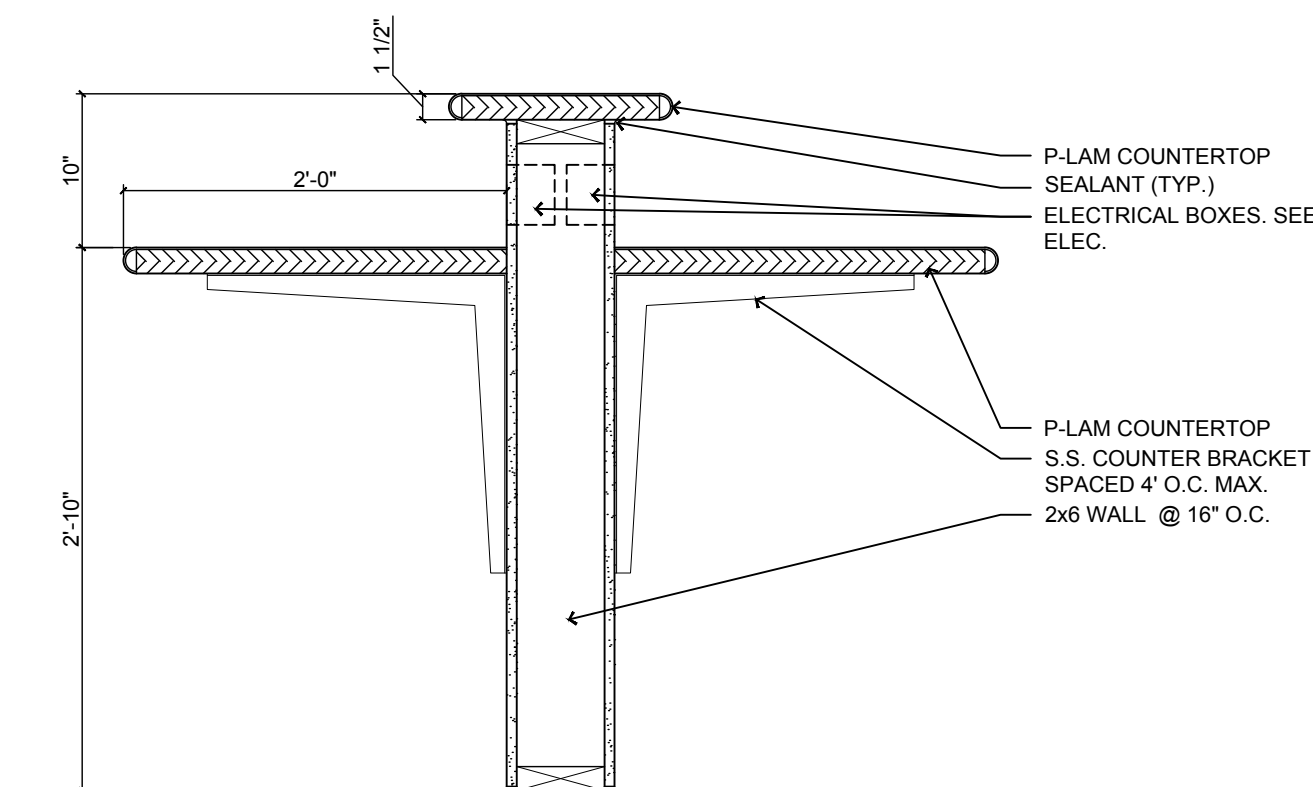
RYFSA SPORTS COMPLEX
ROCHESTER COMMUNITY AND TECHNICAL COLLEGE
ROCHESTER, MINNESOTA 55904
FLOOR PLAN, ELEVATIONS, SECTION - DUGOUT



1 ELEVATION - CONCESSIONS
1/4" = 1'-0"



2 ELEVATION - CONCESSIONS
1/4" = 1'-0"



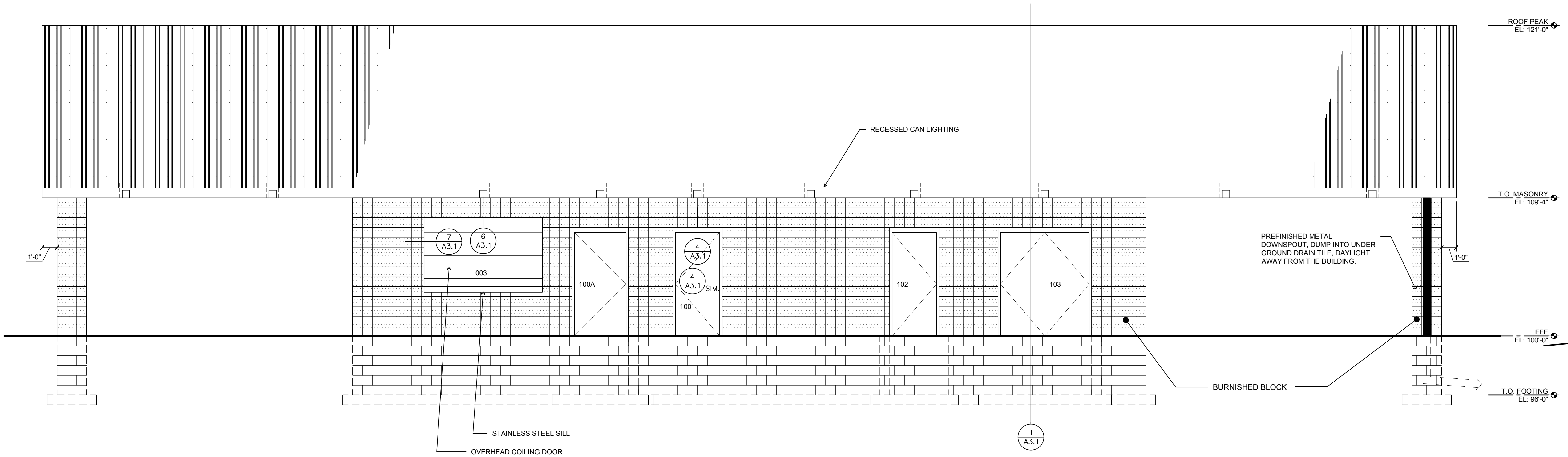
3 KITCHEN COUNTER SECTION
1" = 1'-0"



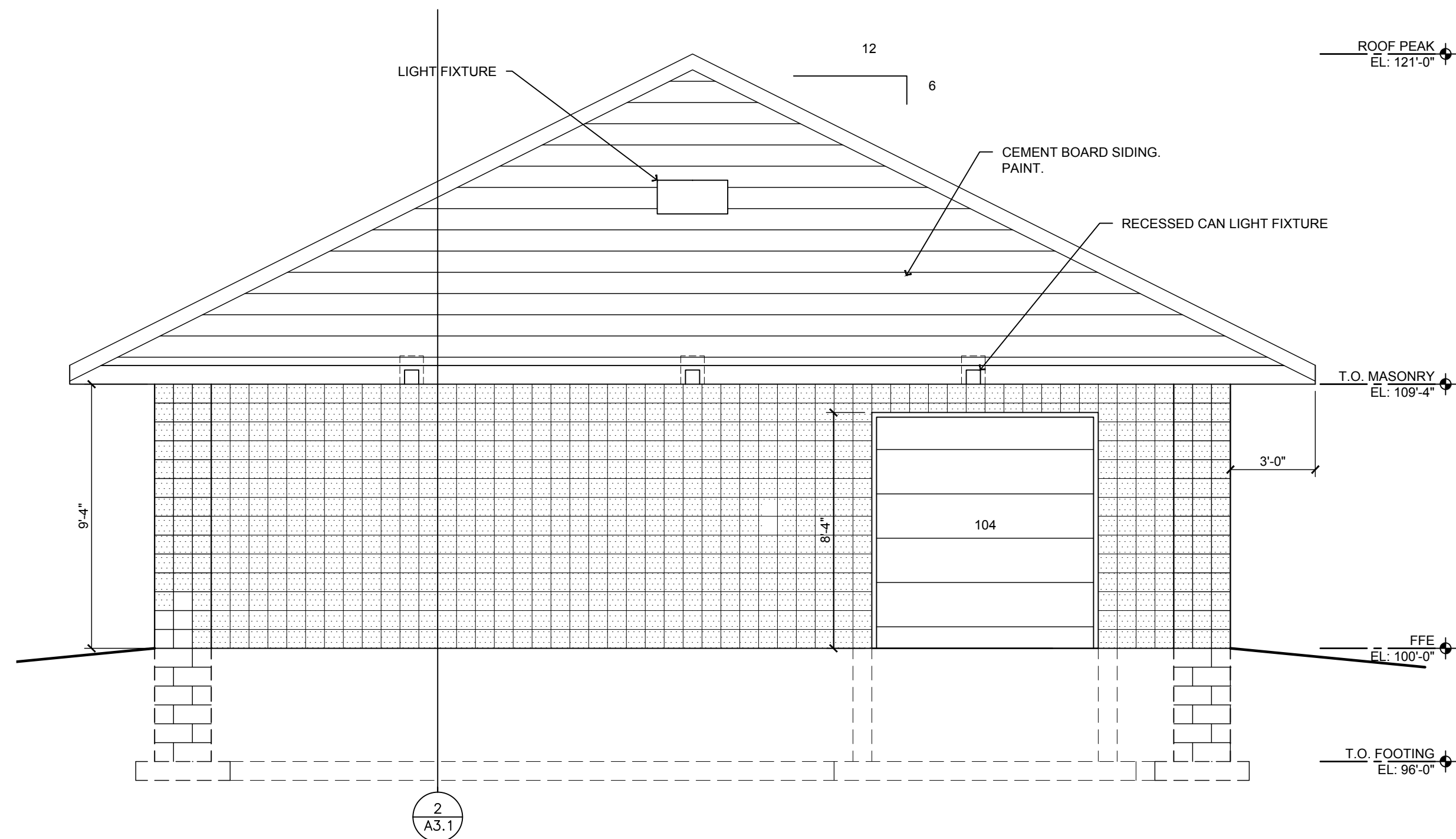
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MINNESOTA.
Dana M. Smith
DATE: 06/16/2016 LIC. NO. 44719

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JUNE 16, 2016	AS SHOWN	ARS	
	CHECKED BY:	DJH	
	JOB NUMBER:	1080R0037.000	

RYFSA SPORTS COMPLEX
ROCHESTER COMMUNITY AND TECHNICAL COLLEGE
ROCHESTER, MINNESOTA 55904
ELEVATIONS & DETAIL - CONCESSIONS



1 NORTH ELEVATION - CONCESSIONS
1/4" = 1'-0"



2 ELEVATION - CONCESSIONS
1/4" = 1'-0"

CONCESSIONS - ROOM FINISH SCHEDULE											
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE	N. WALL FINISH	S. WALL FINISH	E. WALL FINISH	W. WALL FINISH	CEILING			COMMENTS
								MATERIAL	FINISH	HEIGHT	
100	CONCESSIONS	QUARRY TILE	QUARRY TILE	R.F.P.	R.F.P.	R.F.P.	R.F.P.	GWB	PT-1	9'-4"	
101	WOMEN'S RESTROOM	CONC	NONE	R.F.P.	R.F.P.	R.F.P.	R.F.P.	GWB	PT-1	9'-4"	
102	MEN'S RESTROOM	CONC	NONE	R.F.P.	R.F.P.	R.F.P.	R.F.P.	GWB	PT-1	9'-4"	
103	UMPIRE ROOM	CONC	NONE	NONE	PT-1	PT-1	NONE	GWB	PT-1	9'-4"	
104	STORAGE	CONC	NONE	PT-1	NONE	PT-1	NONE	GWB	PT-1	9'-4"	
105	UTILITY ROOM	QUARRY TILE	QUARRY TILE	PT-1	NONE	PT-1	PT-1	GWB	PT-1	9'-4"	
106	RCTC STORAGE	CONC	NONE	PT-1	PT-1	PT-1	PT-1	GWB	PT-1	9'-4"	

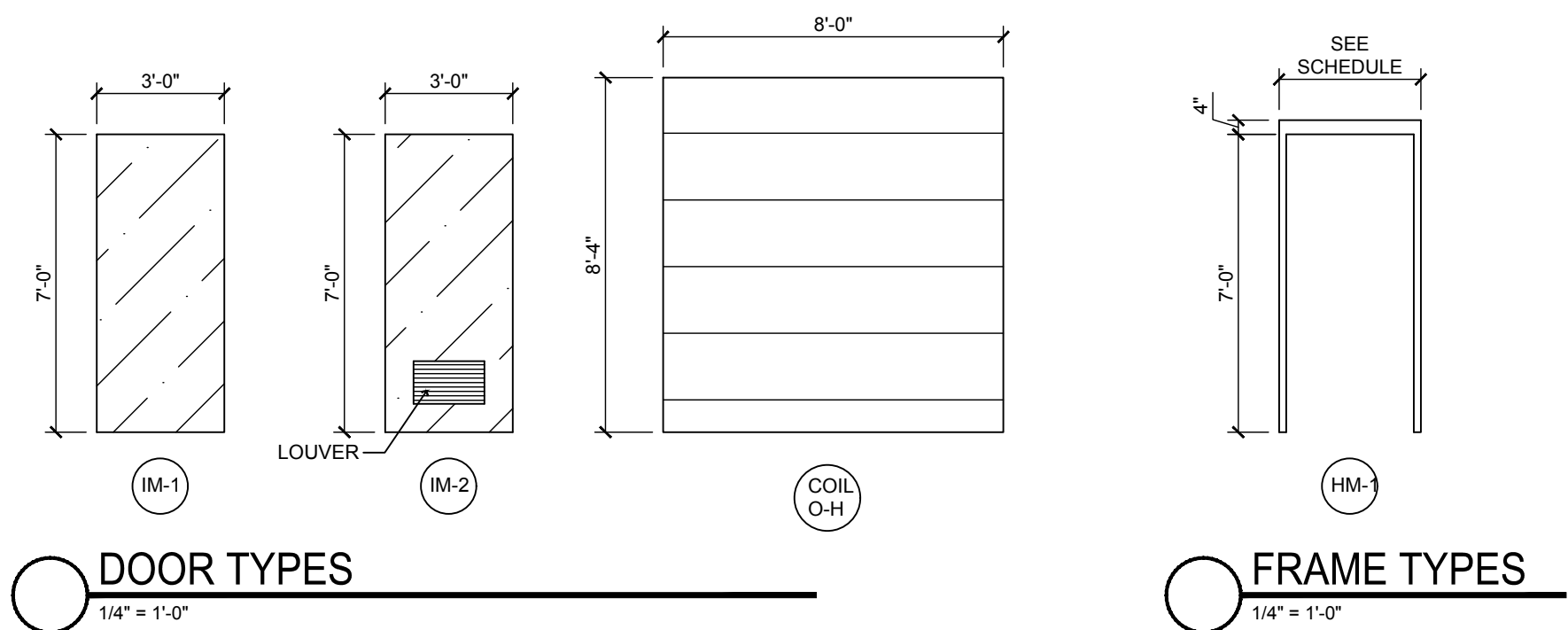
R.F.P.: REINFORCED FIBERGLASS PANEL W/ 5/8" TYPE "X" GWB

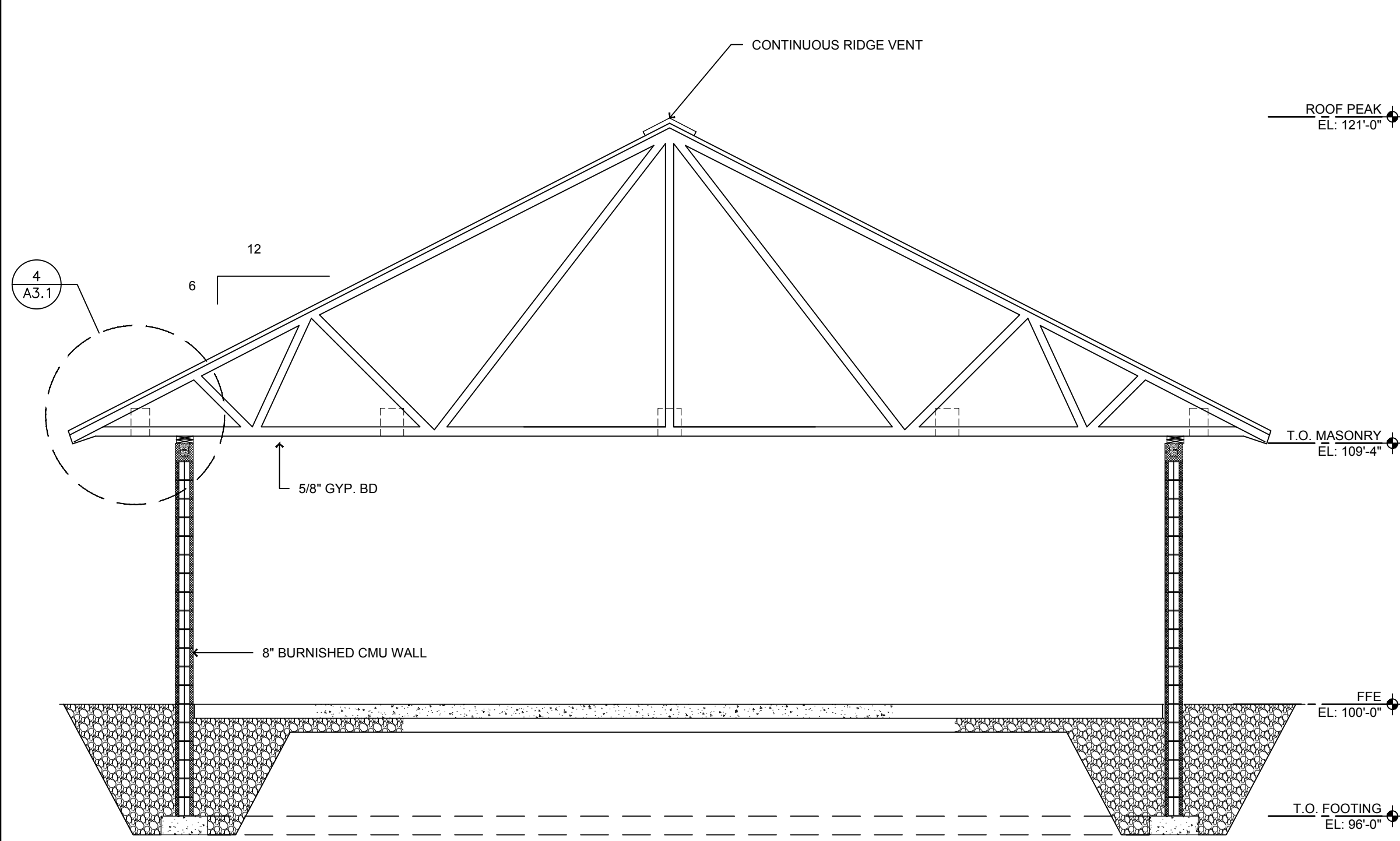
CONCESSIONS - DOOR SCHEDULE														
ROOM NUMBER	ROOM NAME	DOOR NUMBER	HARDWARE SET	DOOR						FRAME			FIRE RATING	COMMENTS
				WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH		
100	CONCESSIONS	100A	1	3'-0"	7'-0"	0'-1 3/4"	IM-1	IM	PT-2	HM-1	HM	PT-2	N/A	
100	CONCESSIONS	100B	1	3'-6"	7'-0"	0'-1 3/4"	IM-1	IM	PT-2	HM-1	HM	PT-2	N/A	
100	CONCESSIONS	003	BY MFGR.	8'-0"	4'-8"		COIL O.H.		NONE			NONE	N/A	
100	CONCESSIONS	004	BY MFGR.	8'-0"	4'-8"		COIL O.H.		NONE			NONE	N/A	
100	CONCESSIONS	005	BY MFGR.	8'-0"	4'-8"		COIL O.H.		NONE			NONE	N/A	
101	WOMEN'S RESTROOM	101	2	3'-0"	7'-0"	0'-1 3/4"	IM-2	IM	PT-2	HM-1	HM	PT-2	N/A	
102	MEN'S RESTROOM	102	2	3'-0"	7'-0"	0'-1 3/4"	IM-2	IM	PT-2	HM-1	HM	PT-2	N/A	
103	UMPIRE ROOM	103	1A	6'-0"	7'-0"	0'-1 3/4"	IM-1	IM	PT-2	HM-1	HM	PT-2	N/A	
104	STORAGE	104	BY MFGR.	8'-0"	8'-0"		COIL O.H.		NONE			NONE	N/A	
105	UTILITY ROOM	105	1	3'-0"	7'-0"	0'-1 3/4"	IM-1	IM	PT-2	HM-1	HM	PT-2	N/A	
106	RCTC STORAGE	106	1A	6'-0"	7'-0"	0'-1 3/4"	IM-1	IM	PT-2	HM-1	HM	PT-2	N/A	

GROUP 1:
STOREROOM FUNCTION, NO CLOSER.
HINGES: 1 EACH.
LOCKSET: STOREROOM FUNCTION.
FUNCTION: LATCHBOLT RETRACTED BY LEVER INSIDE ONLY. OUTSIDE LEVER IS ALWAYS RIGID. KEY OUTSIDE RETRACTS LATCHBOLT. DEADLOCKING LATCHBOLT. 1 EACH STOP.

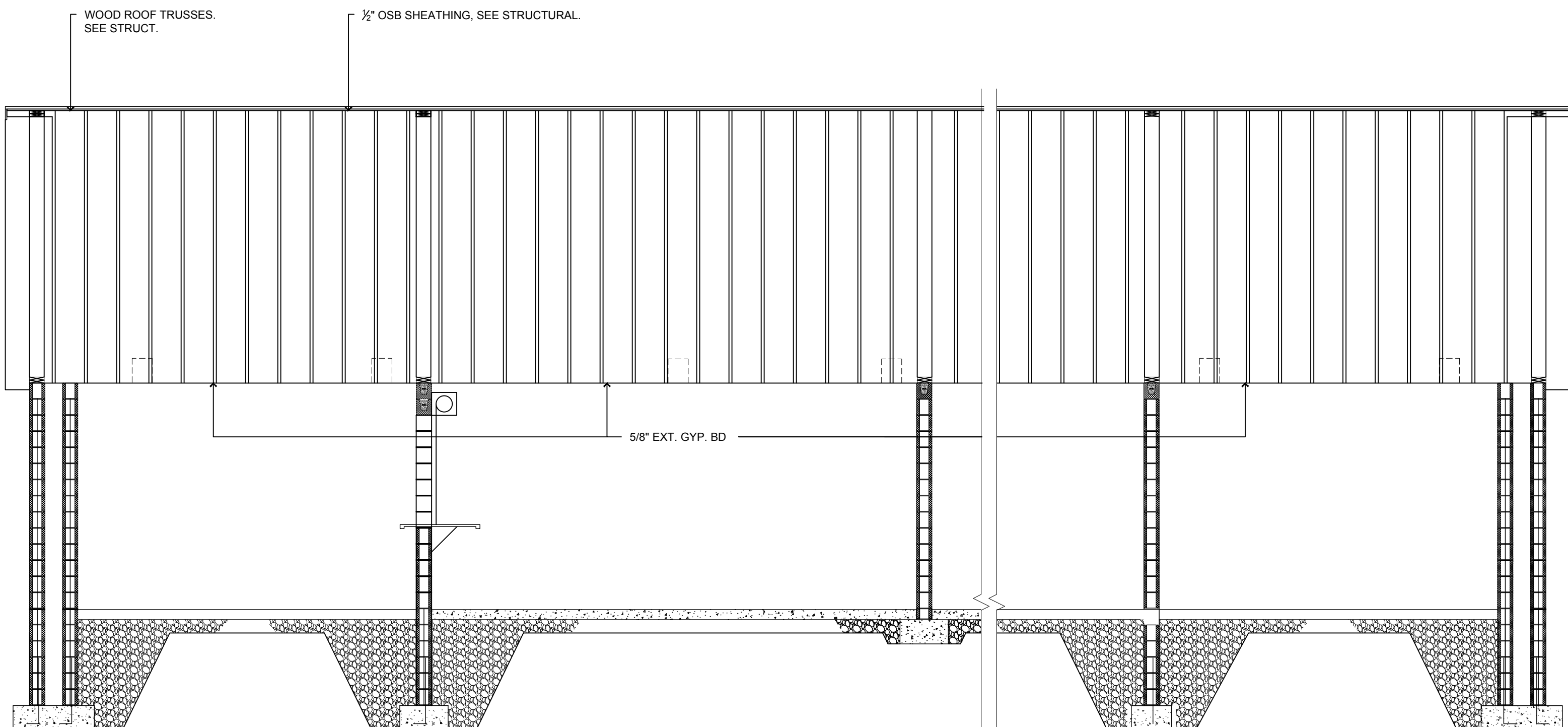
GROUP 1A:
STOREROOM FUNCTION, NO CLOSER.
HINGES: 1 EACH, 180 DEGREE.
LOCKSET: STOREROOM FUNCTION.
FUNCTION: LATCHBOLT RETRACTED BY LEVER INSIDE ONLY. OUTSIDE LEVER IS ALWAYS RIGID. KEY OUTSIDE RETRACTS LATCHBOLT. DEADLOCKING LATCHBOLT. 1 EACH STOP.

GROUP 2:
PUSH-PULL FUNCTION, NO CLOSER.
HINGES: HEAVY DUTY. 1 EACH.
LOCKSET: DEADBOLT FUNCTION.
FUNCTION: DEADBOLT RETRACTED BY KEY INSIDE AND OUTSIDE. 1 EACH STOP.

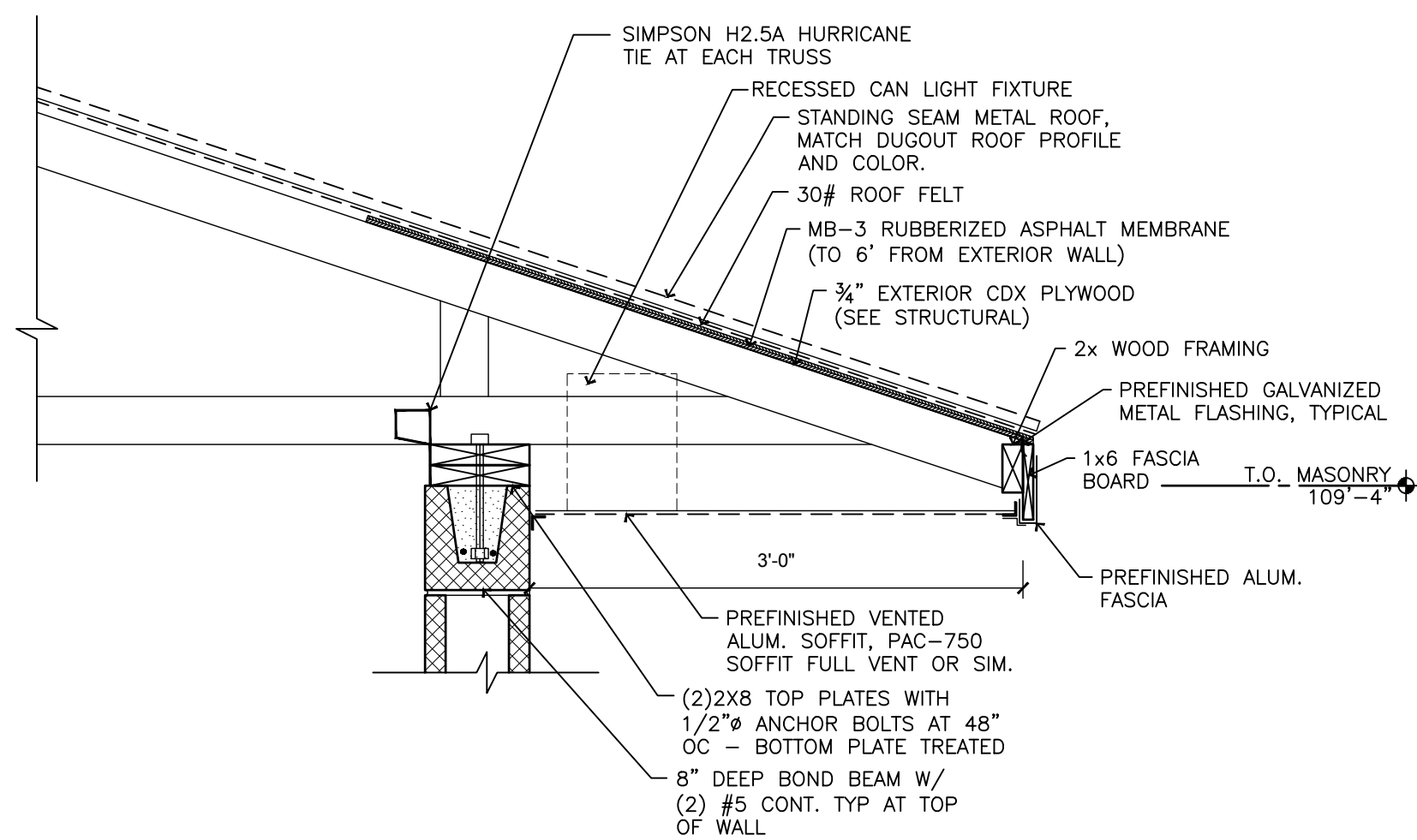




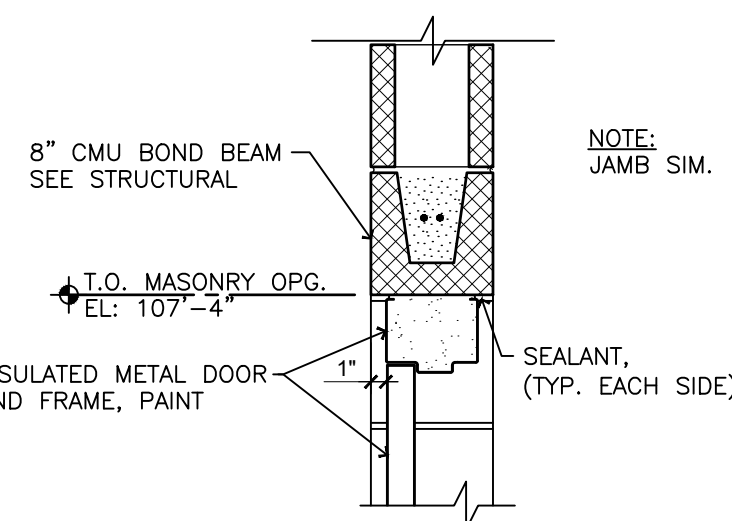
1 SECTION - CONCESSIONS
1/4" = 1'-0"



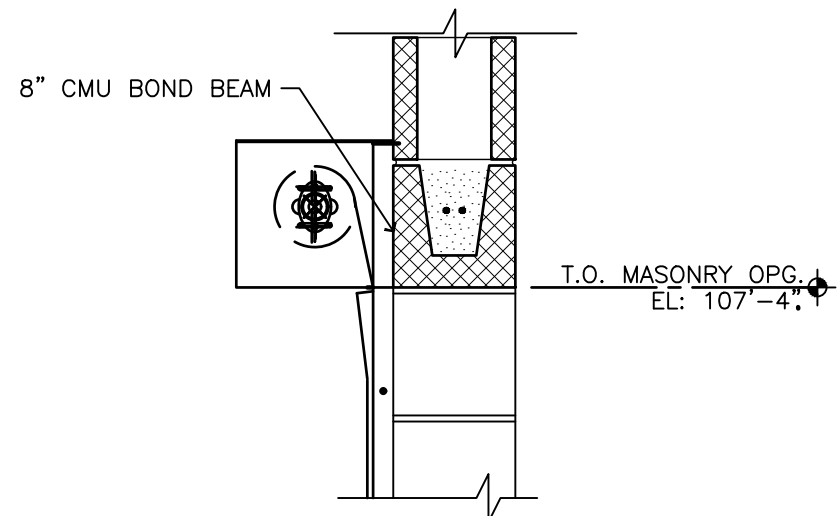
2 SECTION - CONCESSIONS
1/4" = 1'-0"



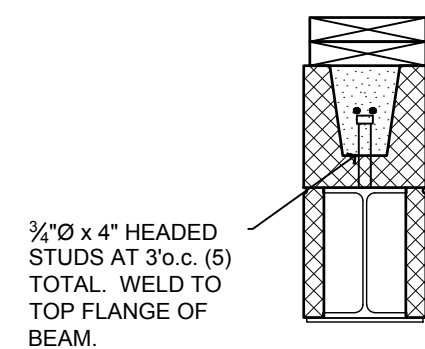
3 ROOF EDGE DETAIL - CONCESSIONS
1" = 1'-0"



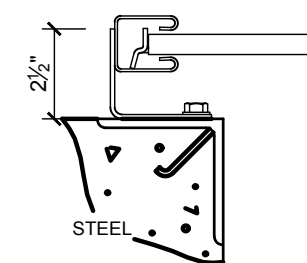
4 DOOR HEAD - CONCESSIONS
1" = 1'-0"



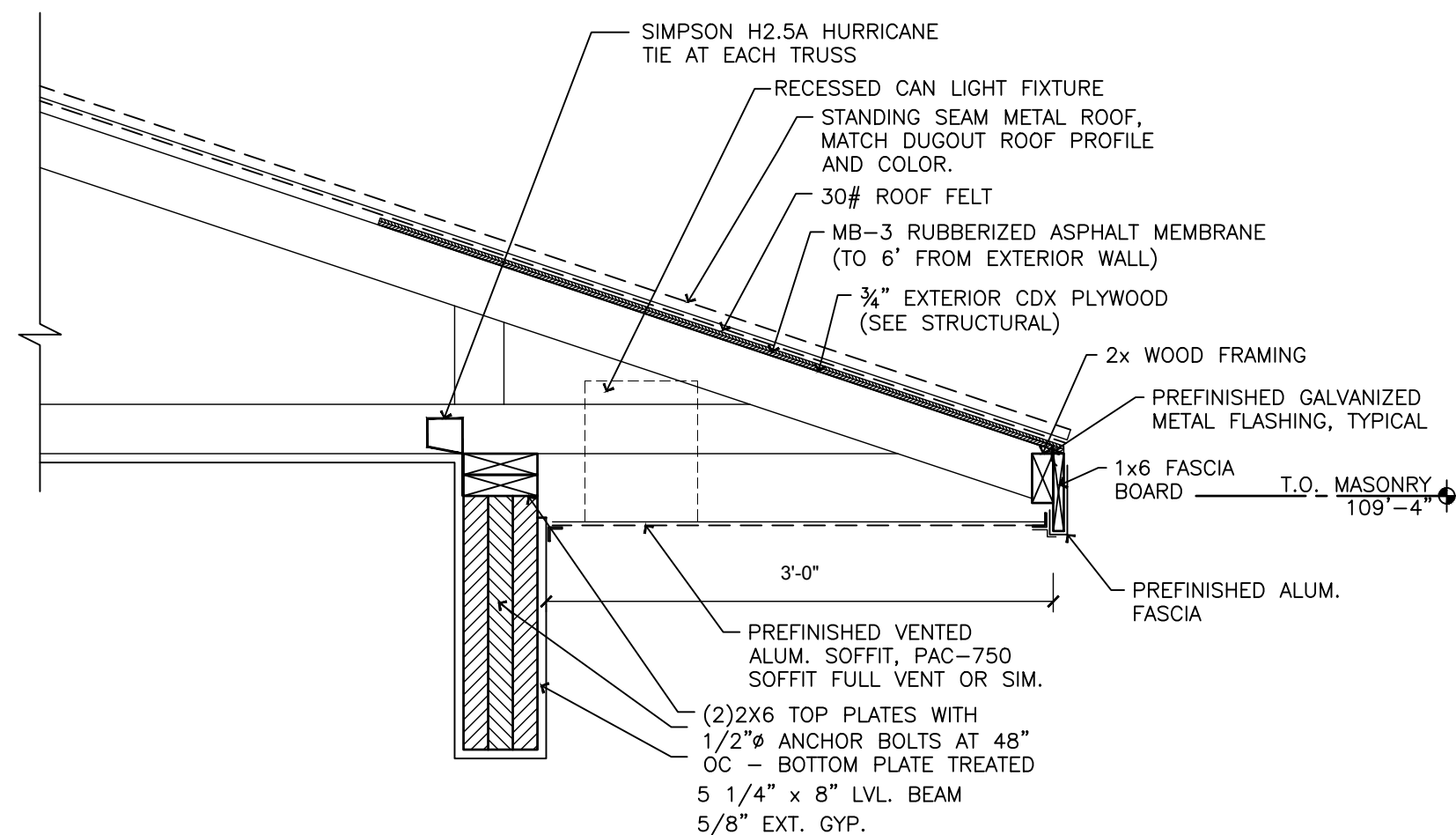
6 COILING DOOR - CONCESSIONS
1" = 1'-0"



5 O.H. DOOR HEAD - CONCESSIONS
1" = 1'-0"



7 COILING DOOR - CONCESSIONS
1" = 1'-0"



8 ROOF EDGE BEAM DETAIL - CONCESSIONS
1" = 1'-0"

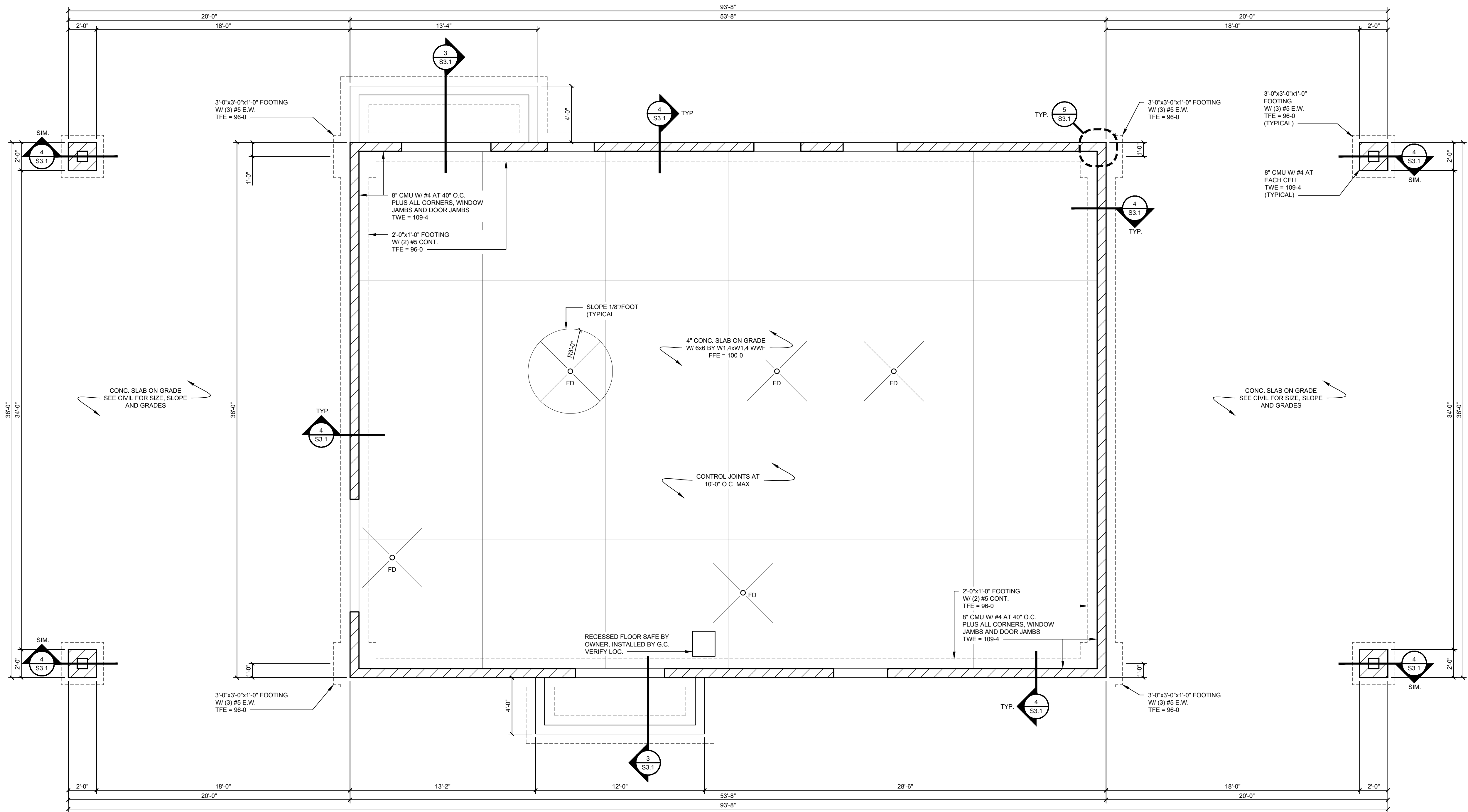


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Dana M. Smith
DANA M. SMITH, P.E.
DATE: 06/12/2016 LC NO. 44719

REVISIONS	DESCRIPTION	BY	DATE

DATE: JUNE 16, 2016	SCALE: AS SHOWN	DATE: JUNE 16, 2016	SCALE: AS SHOWN
DRAWN BY: ARS	CHECKED BY: DJH	DRAWN BY: ARS	CHECKED BY: DJH

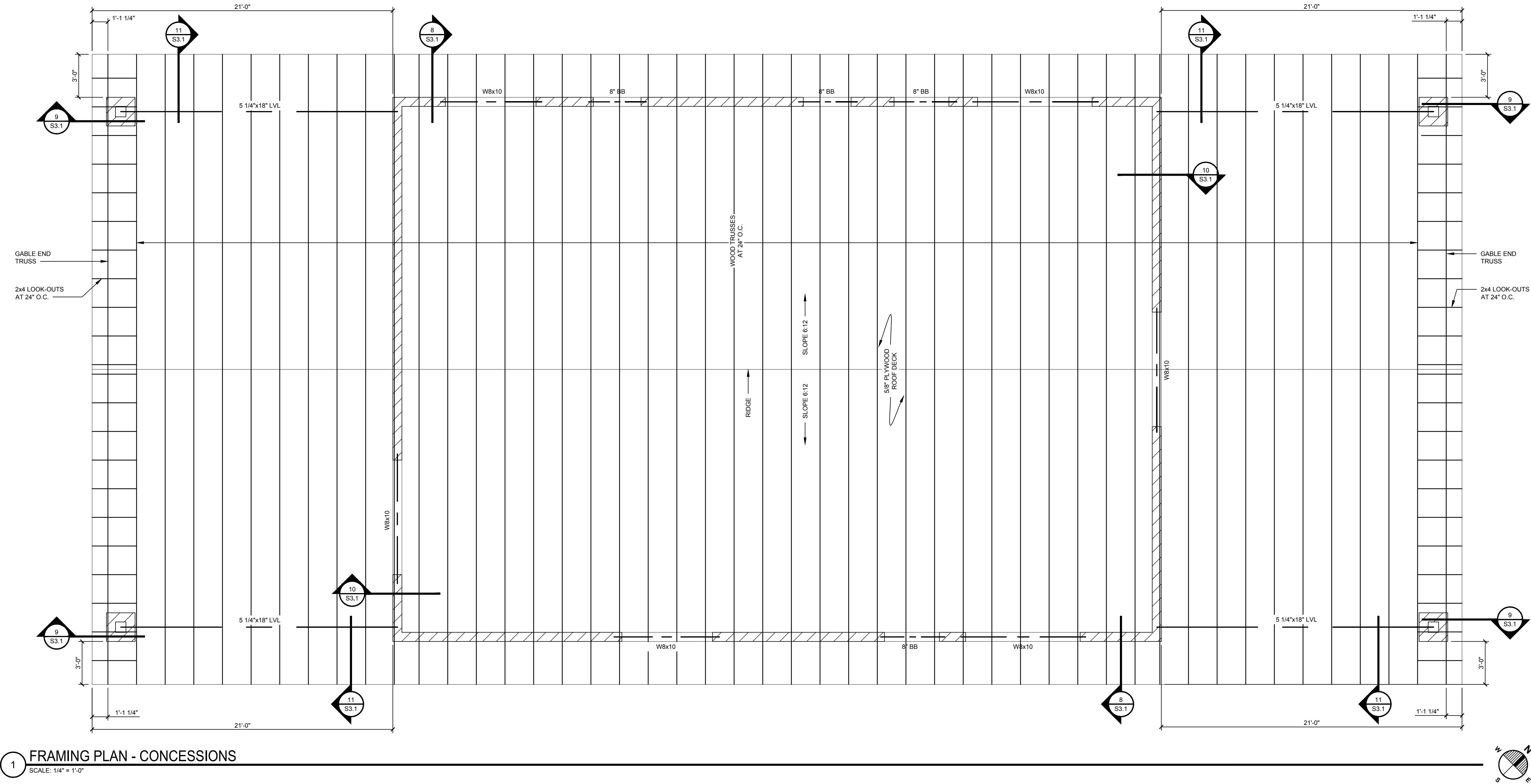
JOB NUMBER: 1080R0037.000	SECTION AND DETAILS
RYFSA SPORTS COMPLEX ROCHESTER COMMUNITY AND TECHNICAL COLLEGE ROCHESTER, MINNESOTA 55904	



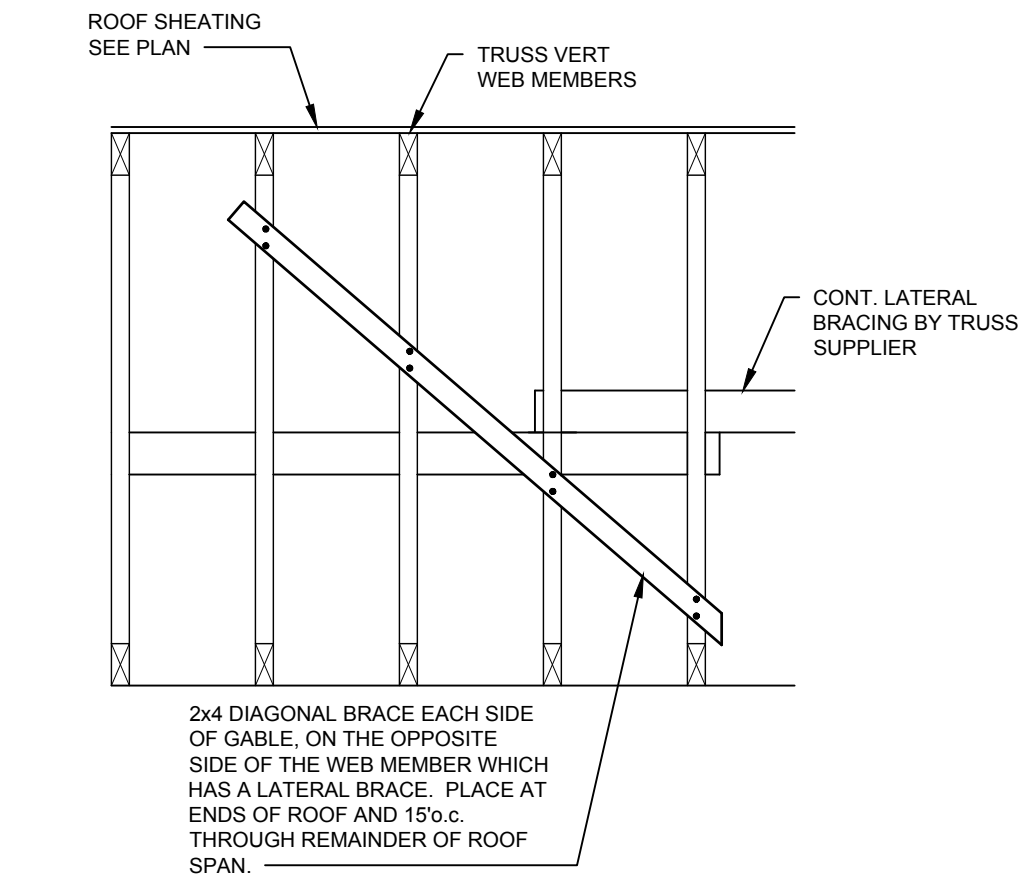
1 FOOTING AND FOUNDATION PLAN - CONCESSIONS
SCALE: 1/4" = 1'-0"

DATE	REV#	REVISIONS DESCRIPTION	BY

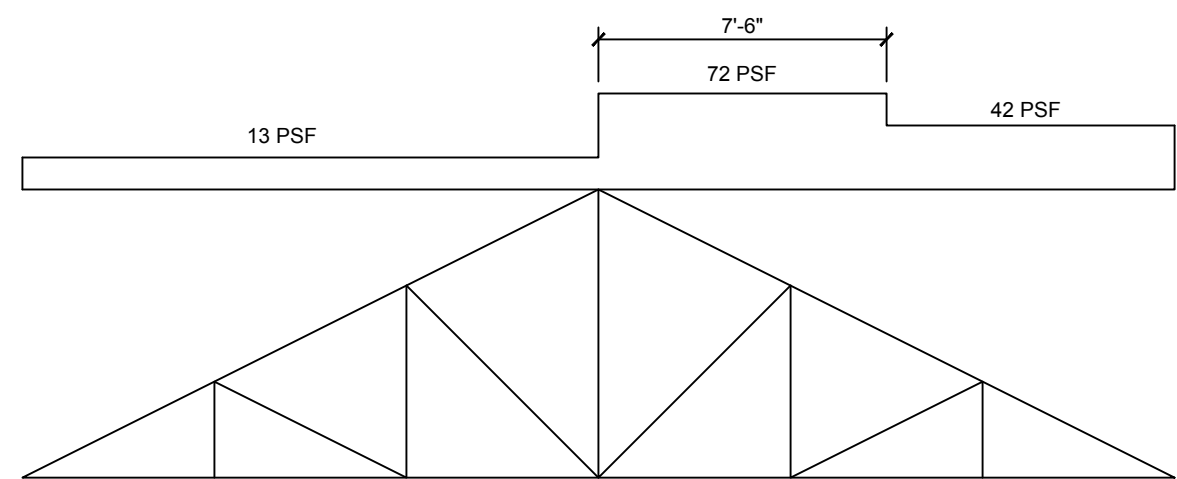
DATE: JUNE 16, 2016	AS SHOWN
DRAWN BY: D. BERG	K.A.R.
CHECKED BY:	
JOB NUMBER: 1080R0037.000	



1 FRAMING PLAN - CONCESSIONS
SCALE: 1/4" = 1'-0"



3 PERMANENT LAT. BRACING
SCALE: NTS



2 UNBALANCED LOADING DIAGRAM
SCALE: NTS

DATE	REV	DESCRIPTION	BY
JUNE 16, 2016	AS SHOWN		
	D.BERG		
	K.A.T.		

DATE: JUNE 16, 2016
SCALE: AS SHOWN
DRAWN BY: D.BERG
CHECKED BY: K.A.T.
JOB NUMBER: 1080R0037.000

STRUCTURAL NOTES

I. DESIGN DATA:

A. BUILDING CODES

- INTERNATIONAL BUILDING CODE - 2012
- AMERICAN CONCRETE INSTITUTE 318-05
- NOMA, SPECIFICATION FOR THE DESIGN & CONSTRUCTION OF LOAD BEARING CONCRETE MASONRY
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION, 9th EDITION
- CRSI, MANUAL OF STANDARD PRACTICE

B. DESIGN LOADS

- WIND LOAD
EXPOSURE DESIGN WIND SPEED B MPH
90 15 PSF (+ DRIFTING)
5 PSF
- ROOF LIVE LOAD
DEAD LOAD
NET UPLIFT FOR JOIST DESIGN
100 PSF
20 PSF
- FLOOR LIVE LOAD
DEAD LOAD
100 PSF
20 PSF
- STAIRS, PUBLIC CORRIDORS, & LOBBIES LIVE LOAD
100 PSF
- SEISMIC ZONE 1

II. SITE WORK:

A. SOIL REPORT

- DESIGN NET SOIL BEARING CAPACITY IS AS FOLLOWS:
a. SPREAD FOOTINGS 1,500 PSF
b. STRIP FOOTINGS 1,500 PSF
- CONTRACTOR TO HAVE BOTTOM OF EXCAVATION INSPECTED BY SOILS ENGINEER PRIOR TO CASTING FOOTINGS TO VERIFY SOIL BEARING CAPACITY.
- MINIMUM DEPTH FROM EXTERIOR GRADE TO BOTTOM OF BUILDING PERIMETER FOUNDATION SHALL BE 5'-0". ALL OPEN AIR FOUNDATIONS SHALL HAVE A MINIMUM OF 5'-0" OF FROST PROTECTION.
- BACKFILL EVENLY ON EACH SIDE OF WALLS IN 8" LIFTS TO A MINIMUM OF 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY.
- FOOTINGS TO BEAR ON UNDISTURBED, UNFROZEN SOIL. FILL BELOW FOOTINGS SHALL BE PLACED IN 8" LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE MAXIMUM STANDARD PROCTOR DENSITY.

III. CONCRETE:

A. CONCRETE MATERIAL PROPERTIES

- CONCRETE PROPERTIES
F'C PSI 28 DAYS SLUMP INCHES
a. FOOTINGS 3,000 PSI 3" - 4"
b. INTERIOR SLAB ON GRADE 4,000 PSI 3" - 4"
c. EXTERIOR SLAB ON GRADE 4,000 PSI 3" - 4"
- ALL EXTERIOR CONCRETE SHALL BE AIR ENTRAINED TO GIVE THE CONCRETE AN AIR CONTENT OF 6± 1% BY VOLUME.
- CONCRETE MIX DESIGNS AND SUPPORTIVE DATA MUST BE SUBMITTED FOR APPROVAL ACCORDING TO ACI 318-05, SECTION 5.3. SEE SPECIFICATIONS FOR MORE INFORMATION.

B. REINFORCING MATERIAL PROPERTIES

- ALL BARS UNLESS NOTED
60 FY, KSI A615
- WELDED WIRE FABRIC (SMOOTH)
65 A185

C. CAST IN PLACE CONCRETE

- ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED ACCORDING TO CRSI "MANUAL OF STANDARD PRACTICE".
- SLABS AND FOOTINGS TO BEAR ON COMPACTED, UNFROZEN SOIL.
- PROVIDE SAW CUT CONTROL JOINTS AT 10'-0" O.C. E.W. OR AS INDICATED ON PLAN SHEETS. CUT TO BE 3/16" WIDE AND 1 1/2" DEEP. CUT TO BE MADE WITHIN 24 HOURS AFTER POURING SLAB.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:
MINIMUM COVER IN.
a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3
b. CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 THROUGH #11 BARS 2
#5 BAR AND SMALLER 1 1/2
c. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
SLABS, WALLS 3/4
BEAMS, COLUMNS, PRIMARY REINFORCEMENT, TIES, STIRRUPS 1 1/2
- CONSTRUCTION JOINTS TO BE DOVELOED OR KEVED. PROVIDE DETAIL TO ENGINEER FOR APPROVAL.

IV. STEEL

A. MATERIAL STRENGTHS

- STRUCTURAL SHAPES
50,000 A992
- HIGH STRENGTH BOLTS, UNLESS NOTED
74,000 A325
- ANCHOR BOLTS (TENSILE STRENGTH)
60,000 A307
- WELDING ELECTRODES
E70XX A233
- DECK WELDING ELECTRODES
E60XX A233
- STRUCTURAL TUBES
46,000 A500, GRADE B
- PLATES, ANGLES, ETC.
36,000 A36
- HEADED STUDS
50,000 A108
- EXPANSION BOLTS SHALL BE HILTI QUIK BOLT II OR EQUIVALENT.

B. STRUCTURAL STEEL

- AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND AISC "CODE OF STANDARD PRACTICE" NINTH EDITION APPLY EXCEPT AS OTHERWISE NOTED.
- STRUCTURAL STEEL SUPPLIER IS RESPONSIBLE FOR AND SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT FOR THE DESIGN OF ALL CAP PLATES, BEARING PLATES, BASE PLATES, STIFFENERS, SPICES, AND CONNECTIONS UNLESS OTHERWISE NOTED OR SHOWN ON THE DRAWINGS.
- STRUCTURAL STEEL SUPPLIERS SHALL FURNISH BOLTS FOR O.S.H.A. CONNECTIONS.
- PROVIDE PROTECTIVE ASPHALTIC COATING OR EQUAL AROUND STRUCTURAL STEEL BELOW GRADE.
- CAMBERS SHOWN REFLECT THE IN-PLACE ERECTED, BEAM DEAD LOAD CONDITION. CAMBERS SHALL BE INCREASED ACCORDINGLY BY STRUCTURAL STEEL SUPPLIER TO ACCOUNT FOR LOSS OF CAMBER DUE TO CAMBERING PROCESS. SINGLE POINT CAMBERING WILL NOT BE ALLOWED.
- THIS STRUCTURE IS A NON-SELF SUPPORTING STEEL FRAME REQUIRING INTERACTION WITH OTHER ELEMENTS TO PROVIDE THE REQUIRED STABILITY. THE STEEL ERECTOR SHALL PROVIDE TEMPORARY SUPPORTS UNTIL FINAL STABILITY IS PROVIDED. AS A MINIMUM, TEMPORARY SUPPORTS SHALL BE PROVIDED AT EACH GRID IN BOTH DIRECTIONS.
- ALL BOLTED CONNECTIONS, UNLESS NOTED OTHERWISE, SHALL BE 3/4" A325 BEARING-TYPE WITH THREADS INCLUDED IN THE SHEAR PLANE AND AS SUCH NEED BE TIGHTENED IN PROPERLY ALIGNED HOLES TO A SNUG-TIGHT CONDITION AS DEFINED BY THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS.
- ALL WELDING SHALL BE IN STRICT ACCORDANCE TO THE CURRENT SPECIFICATION OF THE A.W.S.

V. MASONRY:

A. MATERIAL PROPERTIES

- | | STRENGTH (PSI) | ASTM |
|---|----------------|---------|
| 1. HOLLOW MASONRY UNITS | 1900 | C90-N.I |
| 2. HOLLOW UNIT MASONRY (ASSEMBLY) | 1350 fm | |
| 3. GROUTED HOLLOW UNIT MASONRY (ASSEMBLY) | 1500 fm | |
| 4. BRICK MASONRY (ASSEMBLY) | 1400 fm | C216-SW |
| 5. MORTAR TYPE N (NON-LOAD BEARING BLOCK AND BRICK) | 750 fm | C270 |
| 6. MORTAR TYPE S (LOAD BEARING BLOCK) | 1800 mo | C270 |
| 7. GROUT | 2000 mo | C476 |
| 8. REINFORCING BARS | 60,000 mo | A615 |
| 9. COLD DRAWN STEEL WIRE | 70,000 mo | A82 |

B. GENERAL MASONRY

- DESIGN IS BASED ON INSPECTED VALUES AS PUBLISHED IN THE "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES" (ACI 530-02/ASCE 5-02)
- ALL HOLLOW UNIT BLOCK COMPRESSION TEST STRENGTHS REQUIRED TO ACHIEVE THE T_n STATED ABOVE SHALL BE ACCORDING TO "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI 530.1-02/ASCE 6-02) BASED ON STRENGTHS BY THE UNIT STRENGTH METHOD SECTION 1.6.
- MASONRY WALLS SHALL HAVE CONTROL JOINTS AT A MAXIMUM OF 30'-0" UNLESS NOTED OTHERWISE.
- PROVIDE STANDARD 90° HOOK DOWELS BETWEEN FOUNDATIONS AND WALLS EQUAL TO THE SIZE AND SPACING OF THE VERTICAL REINFORCING UNLESS NOTED OTHERWISE.
- PROVIDE 9 GA. HORIZONTAL JOINT REINFORCEMENT EVERY COURSE IN STACK BOND WALLS AND EVERY OTHER COURSE IN RUNNING BOND WALLS.
- REINFORCEMENT SPLICES SHALL BE A MINIMUM OF 48 BAR DIAMETERS FOR TENSION SPLICES AND 30 BAR DIAMETERS FOR COMPRESSION SPLICES. ALL SPLICES SHALL MEET TENSION REQUIREMENTS UNLESS NOTED OTHERWISE.
- PROVIDE CONTINUOUS BOND BEAM REINFORCEMENT WITH TWO #5 BARS, OR AS NOTED. DISCONTINUE BARS AT CONTROL JOINTS, UNLESS NOTED OTHERWISE.
- PROVIDE 8" CONCRETE LINTEL WITH TWO #4 BARS ABOVE DOORS AND WINDOWS UP TO 4'-0" WIDE. USE 16" BLOCK LINTEL WITH TWO #5 BARS TOP AND BOTTOM UP TO 8'-0" WIDE. OR PROVIDE LINTEL SIZE AND REINFORCEMENT AS NOTED ON THE DRAWINGS.
- STEEL LINTEL BEAMS TO HAVE 1/2"x6" x 6" HEADED STUDS WELDED TO TOP FLANGE OF BEAM. SPACING TO MATCH BLOCK REINFORCEMENT.

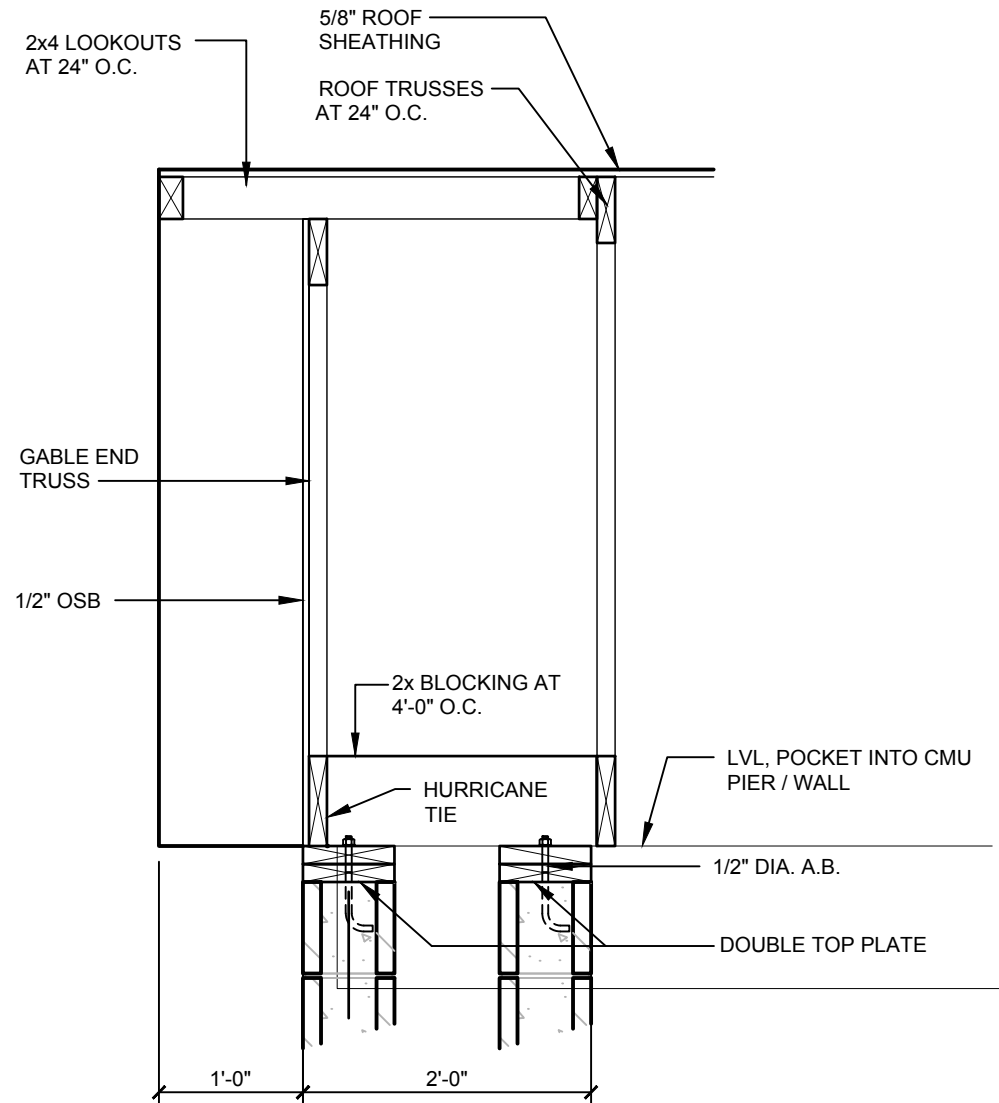
VI. TIMBER

A. STRUCTURAL LUMBER

- DESIGN AND CONSTRUCTION SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION.
- DIMENSION LUMBER SHALL BE #2 HEM-FIR OR BETTER
F_b = 900 PSI, F_v = 75, F_{ct} = 450, F_c = 1250
- CRITICAL DURATION OF LOAD FACTOR C_D = 1.15
- ALL MEMBER SIZES GIVEN ON PLAN ARE NOMINAL DIMENSIONS. DRESSED SIZES ESTABLISHED IN AMERICAN SOFTWOOD LUMBERS STANDARDS PS 20-70 SHALL BE ACCEPTED AS MINIMUM NET SIZES CONFORMING TO SUCH NOMINAL SIZES.
- WOOD LINTELS SHALL HAVE A FULL 3" LENGTH OF BEARING AT EACH END UNLESS NOTED OTHERWISE.
- ALL BEAMS AND JOISTS NOT BEARING ON SUPPORTING MEMBERS SHALL BE FRAMED WITH PREFABRICATED METAL JOIST HANGERS OF REQUIRED CAPACITY.
- WOOD JOISTS SHALL BEAR ON THE FULL WIDTH OF SUPPORTING MEMBERS UNLESS NOTED OTHERWISE.
- NAILING SHALL BE IN ACCORDANCE WITH THE I.B.C. (AS A MINIMUM) OR AS REQUIRED BY THE DRAWINGS. SPACE NAILS TO AVOID SPLITTING. NAILS SHALL BE CLINCHED.
- LVL BEARS SHALL BE EQUIVALENT TO TRUSS JOIST CORPORATION
F_b = 2800 PSI, E = 2,000,000 PSI
- ALL LUMBER IN CONTACT WITH CONCRETE, MASONRY OR EARTH SHALL BE PRESSURE TREATED
- PLYWOOD SHEATHING SHALL BE MINIMUM 5 PLIES AND RATED FOR LOADS AND SPANS AS INDICATED ON THE PLANS.

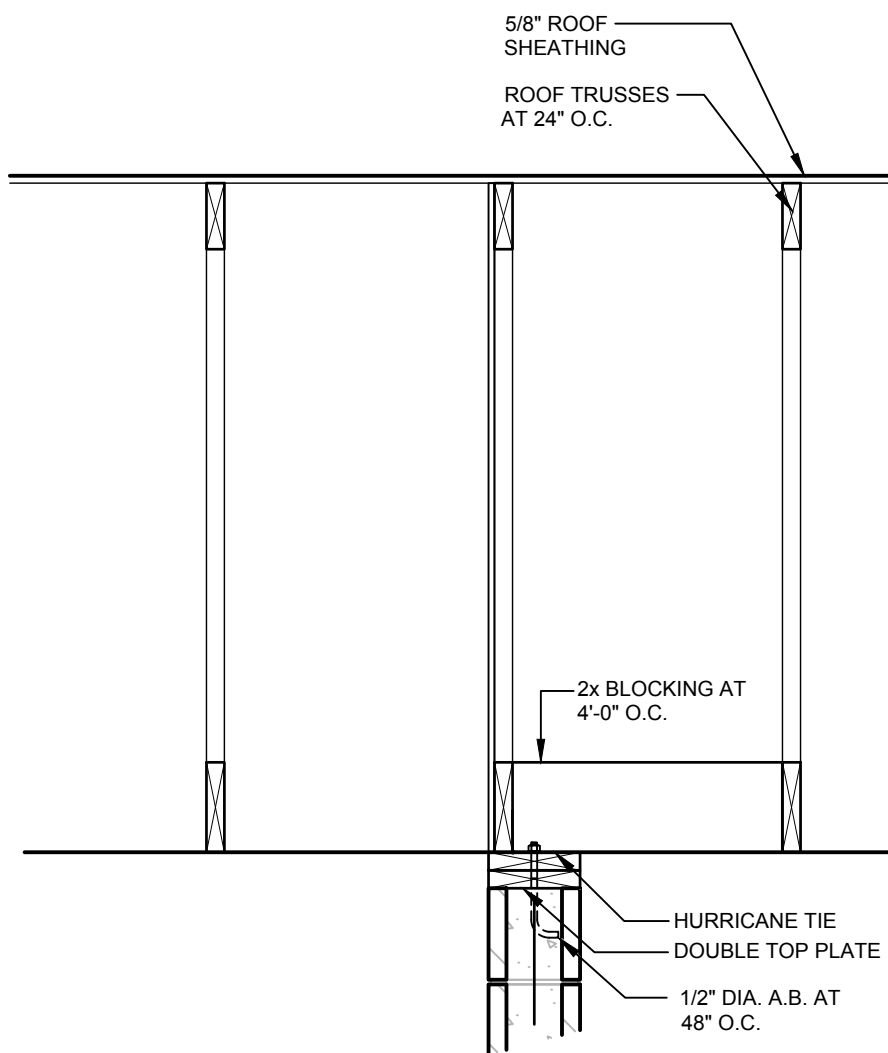
B. TRUSSES

- THE DESIGN AND FABRICATION OF ALL TRUSSES SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATIONS FOR STRESS GRADE LUMBER AND ITS FASTENERS BY NATIONAL FOREST PRODUCTS ASSOCIATION, AND DESIGN SPECIFICATIONS FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES BY THE TRUSS PLATE INSTITUTE.
- SEE PLANS FOR LOADS APPLIED TO TRUSSES. CRITICAL DURATION OF LOAD FACTOR ... C_D = 1.15. DEAD LOAD LISTED INCLUDES THE WEIGHT OF THE TRUSS.
- TRUSS SUPPLIER TO FURNISH ALL BRIDGING, TRUSS TO BEAM CONNECTIONS, HEADERS AND CHORD EXTENSIONS, ETC. AS NECESSARY TO PROVIDE A COMPLETE INSTALLATION.
- PLACEMENT OF MECHANICAL UNITS AND HANGERS SUPPORTED BY ROOF TRUSSES IS SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER.
- THE TRUSS MANUFACTURER IS RESPONSIBLE FOR AND SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT FOR ALL ELEMENTS AND MEMBERS DESIGNED BY THE TRUSS MANUFACTURER.
- THE DESIGN OF TRUSS MEMBERS AND ELEMENTS SHOWN ON THE DRAWINGS ARE FOR THE IN-PLACE COMPLETED BUILDING. ALL LOADING CRITERIA AND VERIFICATION OF DESIGN FOR LOADING SUCH AS HANDLING, TRANSPORTATION, AND ERECTION ARE THE SOLE RESPONSIBILITY OF THE TRUSS MANUFACTURER.
- ALL TRUSSES SHALL BE FASTENED TO TOP OF WALL WITH SIMPSON HURRICANE TIES OR EQUAL.



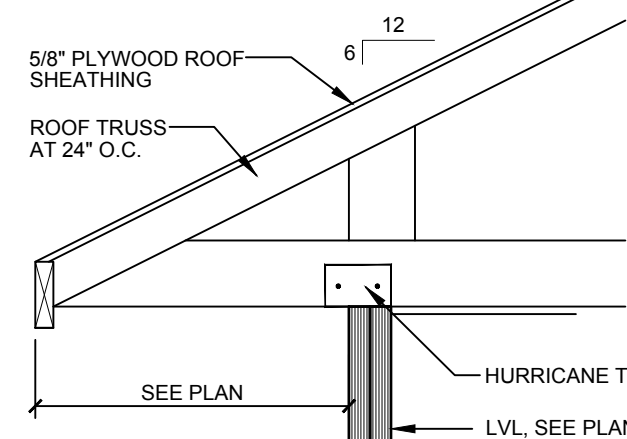
9 FRAMING AT PIER

SCALE: NTS



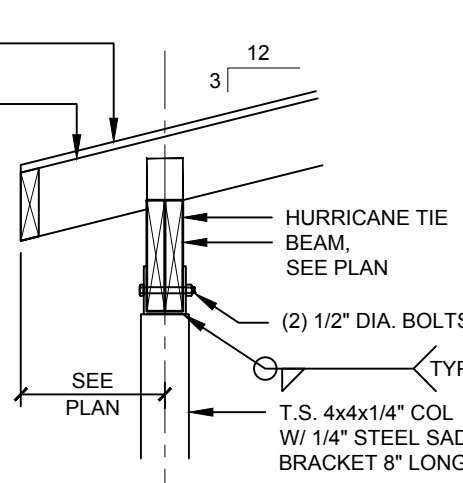
10 FRAMING AT CONCESSION END WALL

SCALE: NTS



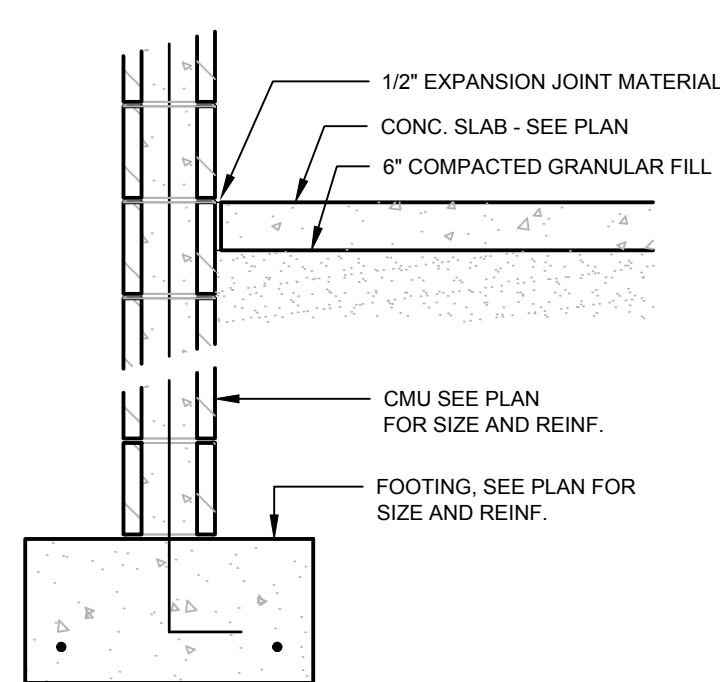
11 FRAMING AT LVL

SCALE: NTS



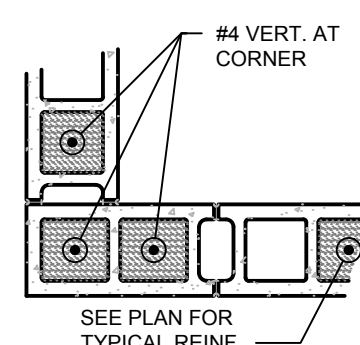
12 FRAMING AT DUGOUT

SCALE: NTS



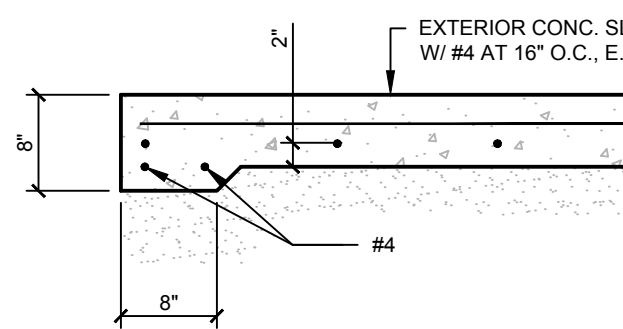
4 CMU FONDATION WALL AND CONC. FTG.

SCALE: NTS



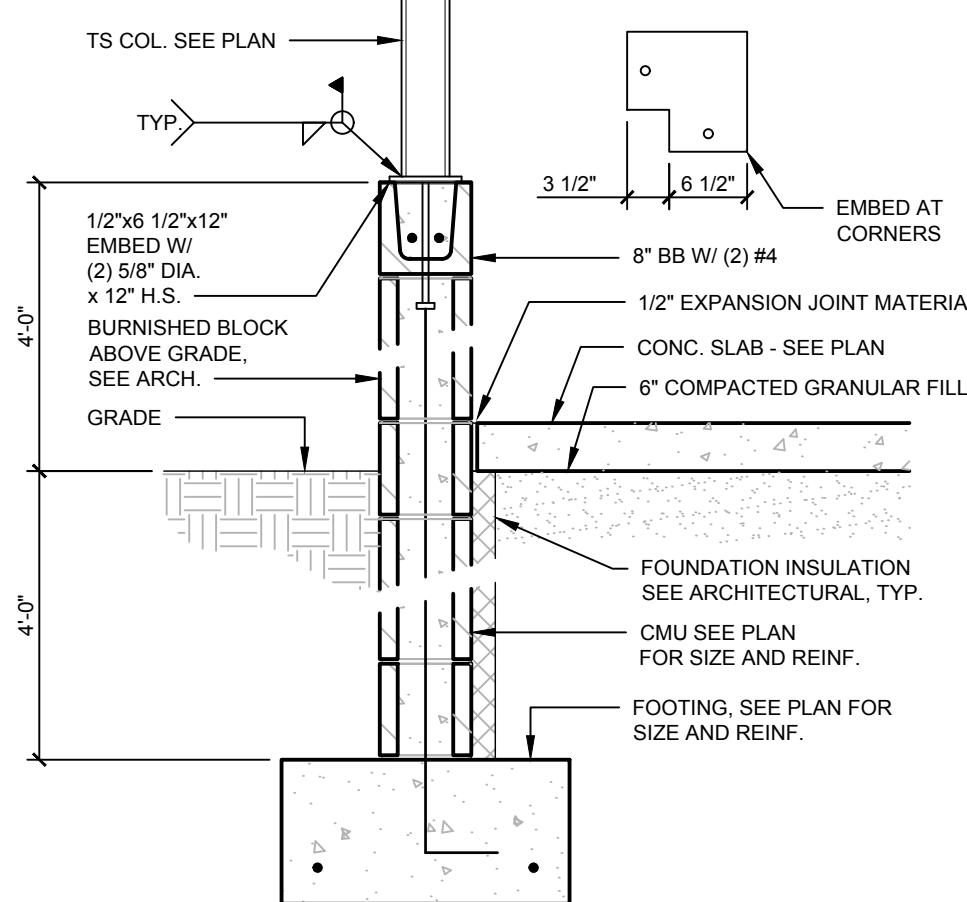
5 CMU REINF. AT CORNER

SCALE: NTS



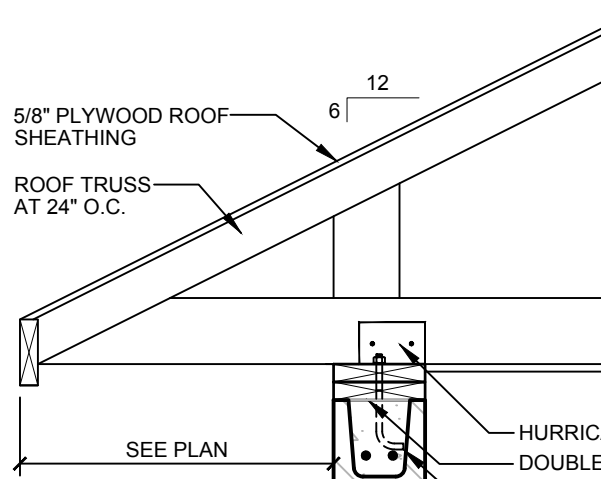
6 THICKENED EDGE SLAB

SCALE: NTS



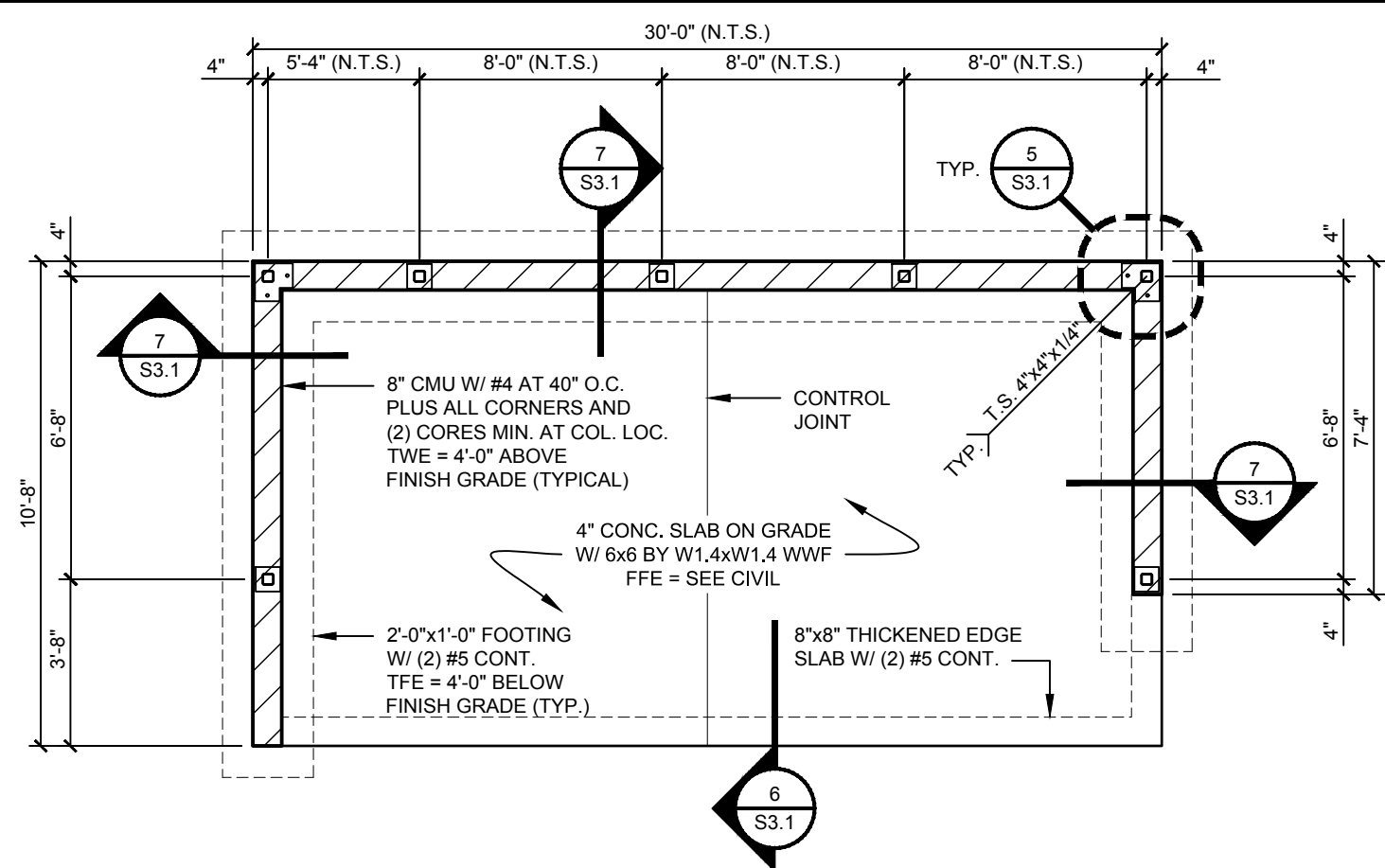
7 FOUNDATION AT DUGOUT

SCALE: NTS



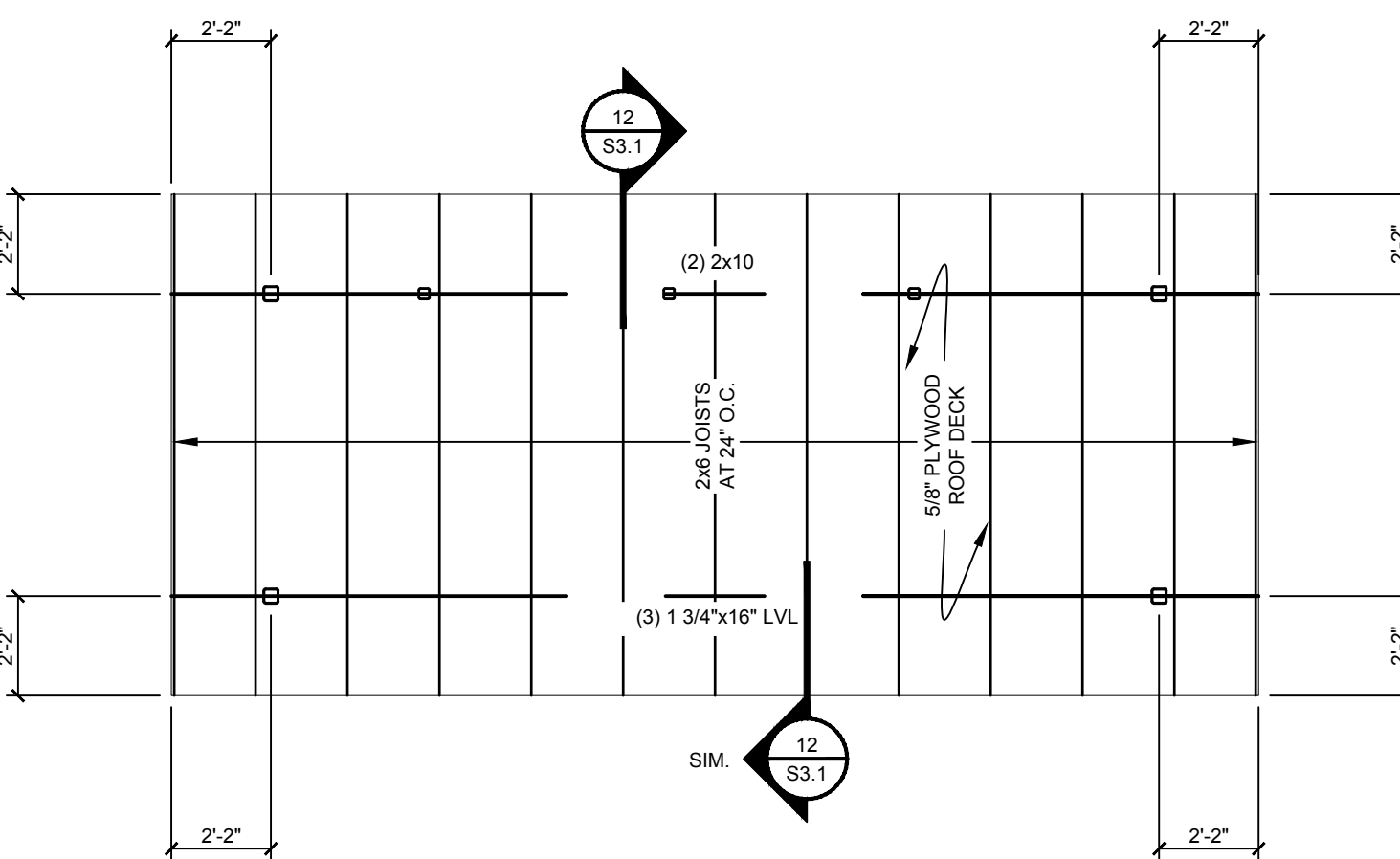
8 FRAMING AT CONCESSION WALL

SCALE: NTS



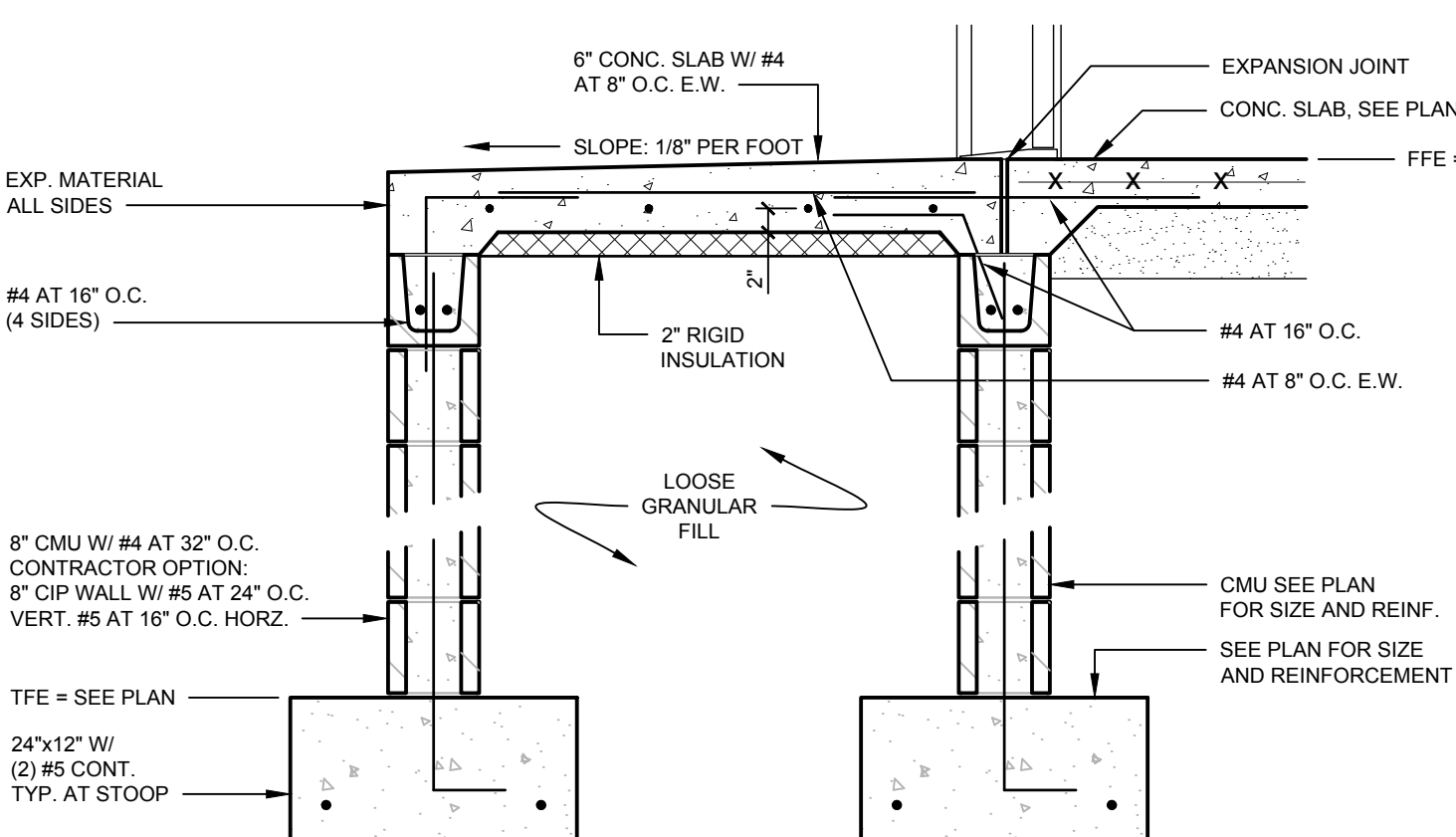
1 FOOTING AND FOUNDATION PLAN - DUGOUT

SCALE: N.T.S.



2 FRAMING PLAN - DUGOUT

SCALE: N.T.S.



3 CMU FONDATION WALL AND STOOP

SCALE: NTS

MECHANICAL ABBREVIATIONS			
AD	AREA DRAIN	INSUL	INSULATION
A.F.F.	ABOVE FINISHED FLOOR	INV	INVERT
AFMS	AIR FLOW MEASURING STATION	KW	KILOWATT
AHU	AIR HANDLING UNIT	LAT	LEAVING AIR TEMPERATURE
ANB	ACID NEUTRALIZING BASIN	LAV	LAVATORY
AP	ACCESS PANEL	LWT	LEAVING WATER TEMPERATURE
ARCH	ARCHITECT	MBH	BTU PER HOUR (THOUSANDS)
AS	AIR SEPARATOR	MCF	THOUSAND CUBIC FEET
BD	BUTTERFLY DAMPER	MH	MANHOLE
B/G	BELOW GRADE	NC	NOISE CRITERIA OR NORMALLY CLOSED
BTU	BRITISH THERMAL UNIT	NEG	NEGATIVE
BWV	BACKWATER VALVE	NIC	NOT IN CONTRACT
CCF	HUNDRED CUBIC FEET	NO	NORMALLY OPEN
CFH	CUBIC FEET PER HOUR	NTS	NOT TO SCALE
CFM	CUBIC FEET PER MINUTE	OA	OUTSIDE AIR
CL	CENTER LINE	OBD	OPPOSED BLADE DAMPER
CLG	CEILING	ORD	OVERFLOW ROOF DRAIN
CO	CLEAN OUT	PD	PRESSURE DROP OR DIFFERENCE
CONTR	CONTRACTOR	PE	PNEUMATIC-ELECTRIC
CONV	CONVECTOR	PLBG	PLUMBING
CUH	CABINET UNIT HEATER	PRV	PRESSURE REDUCING VALVE OR POWER ROOF VENTILATOR
CW	COLD WATER	PSIA	POUNDS/SQ INCH ABSOLUTE
DB	DECIBEL	PSIG	POUNDS/SQ INCH GAUGE
DF	DRINKING FOUNTAIN	PVC	POLY VINYL CHLORIDE
DIA	DIAMETER	RA	RETURN AIR
DIFF	DIFFUSER	RCP	REINFORCED CONCRETE PIPE
DISCH	DISCHARGE	RD	ROOF DRAIN
DMPR	DAMPER	RECIRC	RECIRCULATING
DN	DOWN	REG	REGISTER
DR	DRAIN	RET	RETURN
DS	DOWNSPOUT	RH	RELATIVE HUMIDITY
DWG	DRAWING	RHT	REHEAT
EAT	ENTERING AIR TEMPERATURE	RHC	REHEAT COIL
EDR	EQUIVALENT DIRECT RADIATION	RHW	RECIRCULATED HOT WATER
EP	ELECTRIC-PNEUMATIC	RM	ROOM
EWC	ELECTRIC WATER COOLER	RPM	REVOLUTIONS PER MINUTE
EWT	ENTERING WATER TEMPERATURE	RPZ	REDUCED ZONE BACKFLOW PREVENTER
EXH	EXHAUST	SA	SUPPLY AIR
EXP	EXPANSION	SAN	SANITARY
F	FAHRENHEIT	SCFM	CFM, STANDARD CONDITIONS
FC	FAN COIL	SD	SMOKE DAMPER
FCO	FLOOR CLEAN OUT	SP	STATIC PRESSURE
FD	FIRE DAMPER OR FLOOR DRAIN	SPECS	SPECIFICATIONS
FHC	FIRE HOSE CABINET	SUP	SUPPLY
FHR	FIRE HOSE RACK	SQ	SQUARE
FLR	FLOOR	STM	STEAM
FLEX	FLEXIBLE	TD	TEMPERATURE DIFFERENCE
FM	FIRE MAIN	TEMP	TEMPERATURE
FPM	FEET PER MINUTE	TONS	TONS OF REFRIGERATION
FPS	FEET PER SECOND	T-STAT	THERMOSTAT
FT	FEET OR FOOT	TYP	TYPICAL
F&T	FLOAT AND THERMOSTATIC	UB	UP-BLAST
FTG	FOOTING	UG	UNDERGROUND
FTR	FINNED TUBE RADIATION	UH	UNIT HEATER
FV	FACE VELOCITY	UR	URINAL
GA	GAUGE	V	SANITARY VENT
GAL	GALLON	VAV	VARIABLE AIR VOLUME
GPH	GALLONS PER HOUR	VD	VOLUME DAMPER
GPM	GALLONS PER MINUTE	VEL	VELOCITY
GR	GRILLE	VFD	VARIABLE FREQUENCY DRIVE
HB	HOSE BIBB	VOL	VOLUME
HD	HEAD	W	SANITARY WASTE
HOA	HANDS-OFF-AUTOMATIC	W/	WITH
HTG	HEATING	W/O	WITHOUT
HTR	HEATER	WC	WATER CLOSET
HVAC	HEATING, VENTILATING AND AIR CONDITIONING	WCO	WALL CLEAN OUT
HYD	HYDRANT	WH	WALL HYDRANT
HW	HOT WATER	WTR	WATER
GCO	GRADE CLEANOUT		

MECHANICAL SYMBOLS LEGEND		
PLUMBING	PLUMBING/PIPING	DUCTWORK
AV ——— ACID VENT — BELOW GRADE	ELBOW DOWN	SUPPLY AIR
AV ——— ACID VENT — ABOVE GRADE	CLEANOUT	RETURN AIR
AW ——— ACID WASTE — BELOW GRADE	PIPE CAP	EXHAUST AIR
AW ——— ACID WASTE — ABOVE GRADE	ELBOW UP	STANDARD BRANCH, NO SPLITTER — SUPPLY FLOW TO RIGHT — RETURN/EXHAUST FLOW TO LEFT
DI ——— DEIONIZED WATER	TEE, OUTLET UP	BELLMOUTH WITH BALANCING DAMPER
——— DOMESTIC COLD WATER	TEE, OUTLET DOWN	TURNING VANES
——— DOMESTIC HOT WATER	CONNECTION, BOTTOM	FLEXIBLE CONNECTION
180 ——— DOMESTIC HOT WATER (TEMP. INDICATED)	CONNECTION, TOP	MANUAL VOLUME DAMPER
——— DOMESTIC RECIRCULATING HOT WATER	ECCENTRIC REDUCER	RETURN OR EXHAUST GRILLE OR REGISTER
—HARD——— HARD COLD WATER	CONCENTRIC REDUCER	SUPPLY DUCT UP, POSITIVE PRESSURE
—OSD——— OVERFLOW STORM DRAIN — BELOW GRADE	SHUTOFF VALVE	RETURN DUCT UP, NEGATIVE PRESSURE
—OSD——— OVERFLOW STORM DRAIN — ABOVE GRADE	BALL VALVE	EXHAUST DUCT UP, NEGATIVE PRESSURE
—RO——— REVERSE OSMOSIS WATER	FLOW DIRECTION	SUPPLY DUCT DOWN, POSITIVE PRESSURE
V ——— SANITARY VENT — BELOW GRADE	ELBOW	RETURN DUCT DOWN, NEGATIVE PRESSURE
V ——— SANITARY VENT — ABOVE GRADE	TEE	EXHAUST DUCT DOWN, NEGATIVE PRESSURE
——— SANITARY WASTE — BELOW GRADE	FLOOR DRAIN	SUPPLY DIFFUSER/REGISTER BLANKOFF INDICATED DARK
—W——— SANITARY WASTE — ABOVE GRADE	WALL HYDRANT	RETURN GRILLE/REGISTER
SDT ——— SOIL DRAINAGE TILE	FLOOR CLEANOUT	EXHAUST GRILLE/REGISTER
—SOFT——— SOFTENED COLD WATER (SCW)		CONCENTRIC DUCT TRANSITION
—SHW——— SOFTENED HOT WATER		ECCENTRIC DUCT TRANSITION
—TW——— TEMPERED WATER		
—SD——— STORM DRAIN — BELOW GRADE		
—SD——— STORM DRAIN — ABOVE GRADE		
——— EXISTING PLUMBING TO REMAIN		
——— EXISTING PLUMBING TO REMOVED		

SHEET INDEX	
M0.0	MECHANICAL COVER SHEET
M1.0	UNDERFLOOR PLUMBING PLAN
M2.0	PLUMBING PLAN
M3.0	HVAC PLAN
M4.0	PLUMBING RISERS AND SCHEDULES
M5.0	MECHANICAL SPECIFICATIONS



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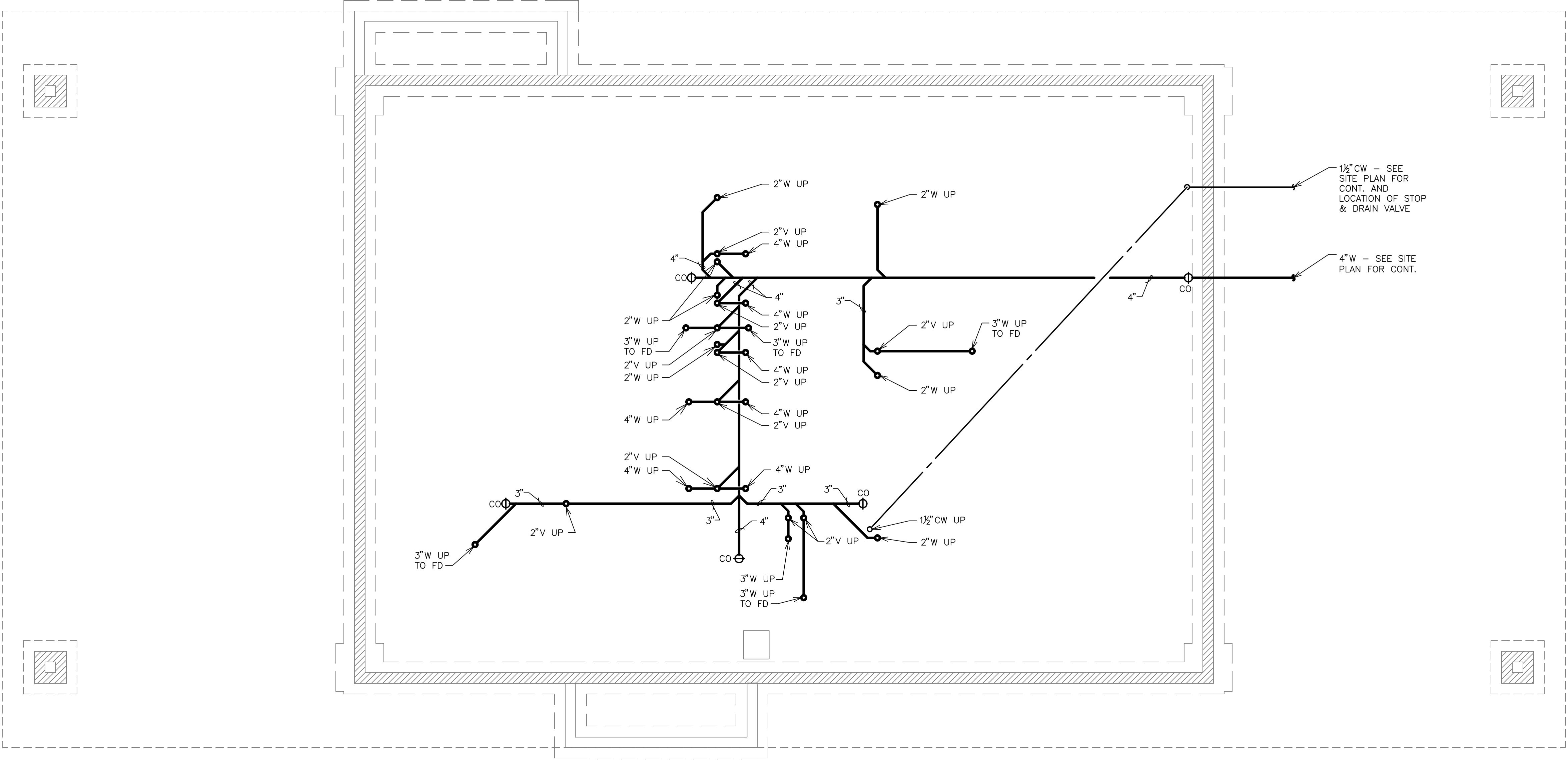
Robert K. Gelle
ROBERT K. GELLE DATE: 06/15/2016 LIC. NO. 23575

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DRAWN BY: MUS	CHKD BY: RKG
CHECKED BY:	JOB NUMBER: 1216027-000-00

RYFSA SPORTS COMPLEX ROCHESTER COMMUNITY AND TECHNICAL COLLEGE ROCHESTER, MINNESOTA	MECHANICAL COVER SHEET
---	------------------------

SHEET NO. M0.0
SHEET 1 OF 6



1 UNDERFLOOR PLUMBING PLAN
1/4" = 1'-0"

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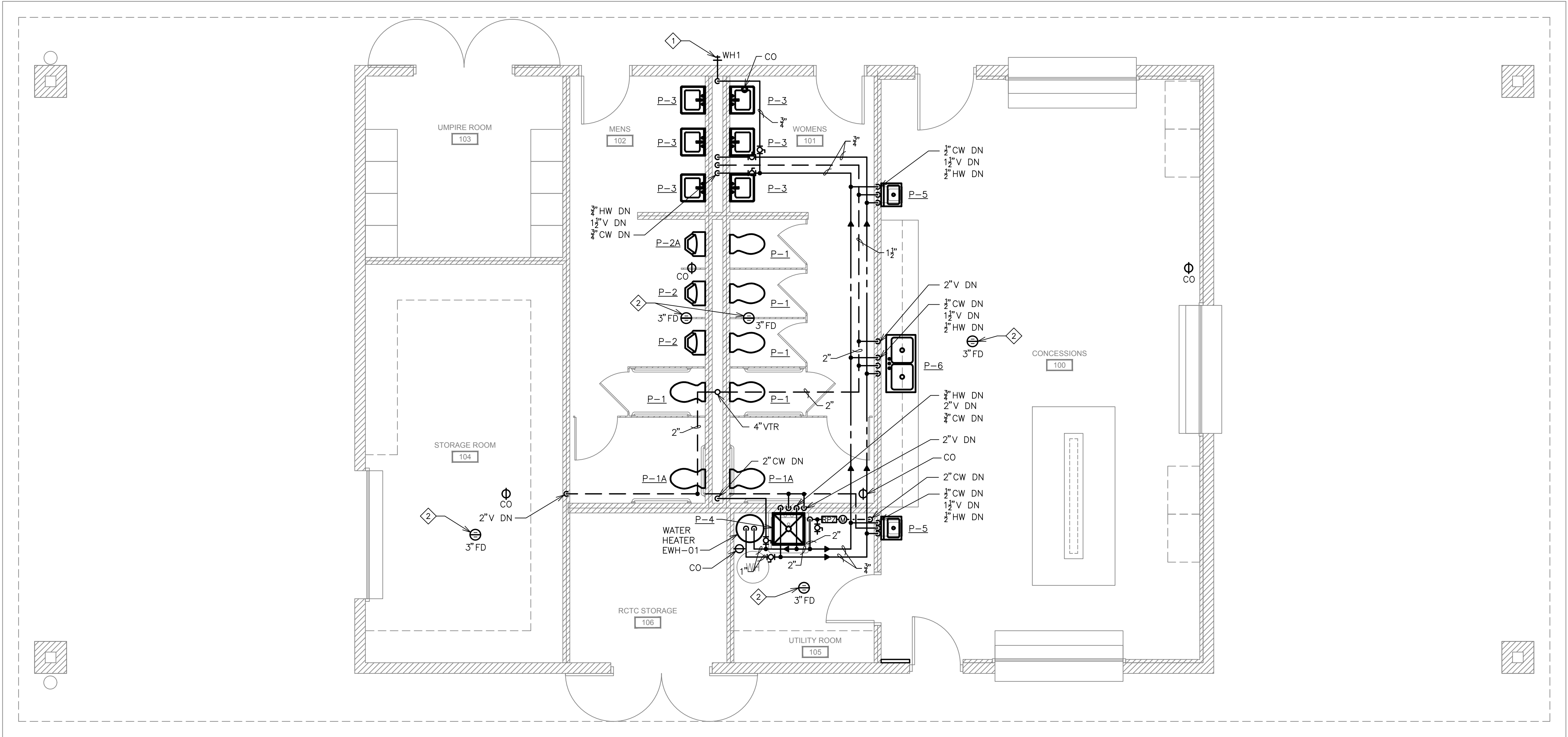
Robert K. Gelle
ROBERT K. GELLE DATE: 06/15/2016 LIC. NO. 28375

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ROCHESTER, MINNESOTA

UNDERFLOOR PLUMBING PLAN



1 PLUMBING PLAN
1/4" = 1'-0"

NEW WORK KEY NOTES:

- ◇ PROVIDE WALL HYDRANT - SIM. TO WOODFORD MODEL 74.
- ◇ PROVIDE FLOOR DRAIN - SIM. TO ZURN Z415B. PROVIDE DEEP SEAL P-TRAP.



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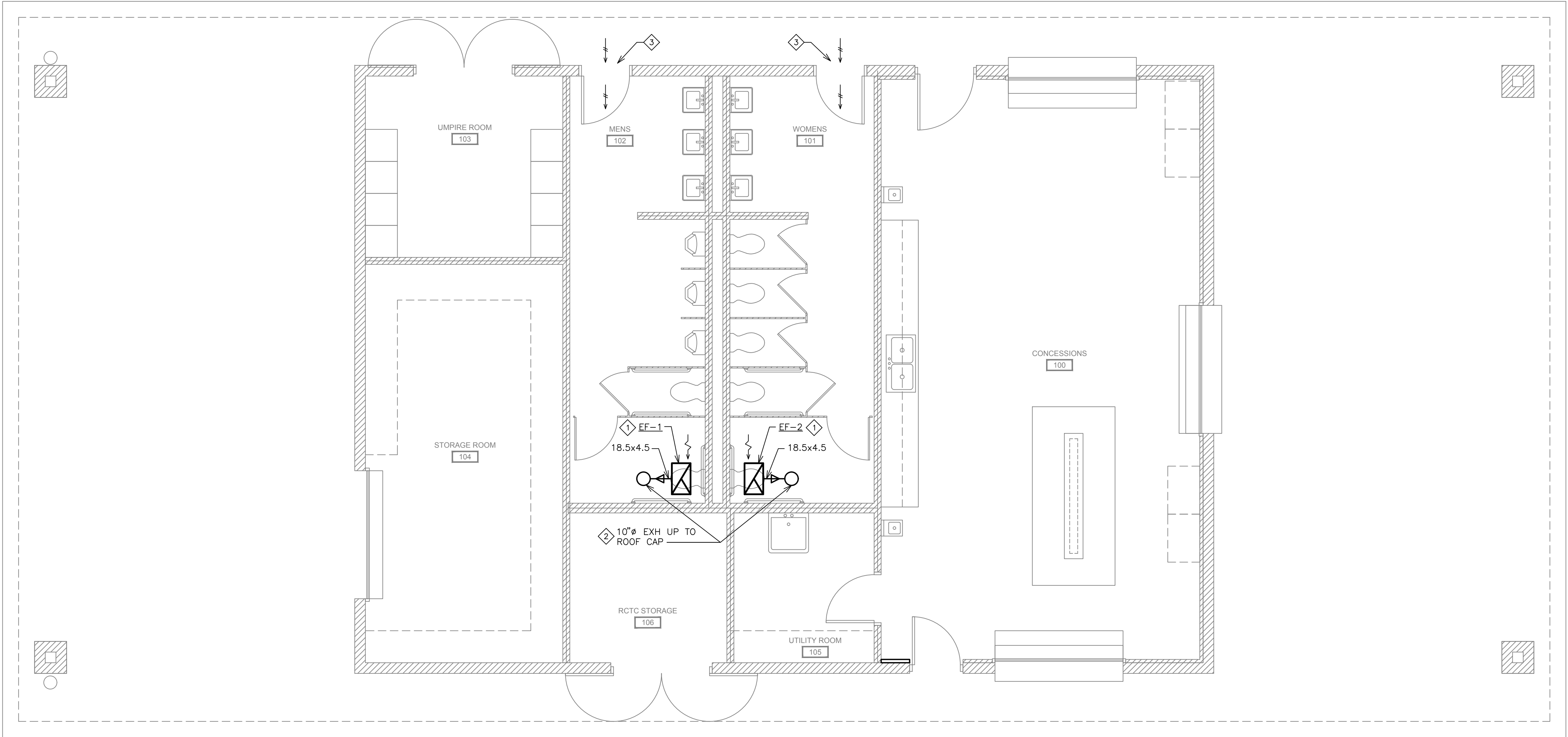
Robert K. Gelle
DATE: 06/15/2016 LIC. NO. 28375

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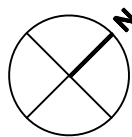
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ROCHESTER, MINNESOTA
PLUMBING PLAN

SHEET NO.
M2.0
SHEET 3 OF 6



1 HVAC PLAN
1/4" = 1'-0"

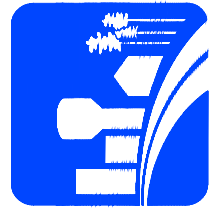


NEW WORK KEY NOTES:

- 1 PROVIDE EXHAUST FAN - SIM. TO BROAN MODEL L500K, CEILING MOUNT, 473 CFM @ .125 SP, 705 RPM, 4.0 SONES, 120V-1PH, 2.2 AMPS, 232 WATTS.
- 2 PROVIDE BROAN MODEL 437 ROOF CAP.
- 3 DOOR TRANSFER GRILLES PROVIDED BY G.C.



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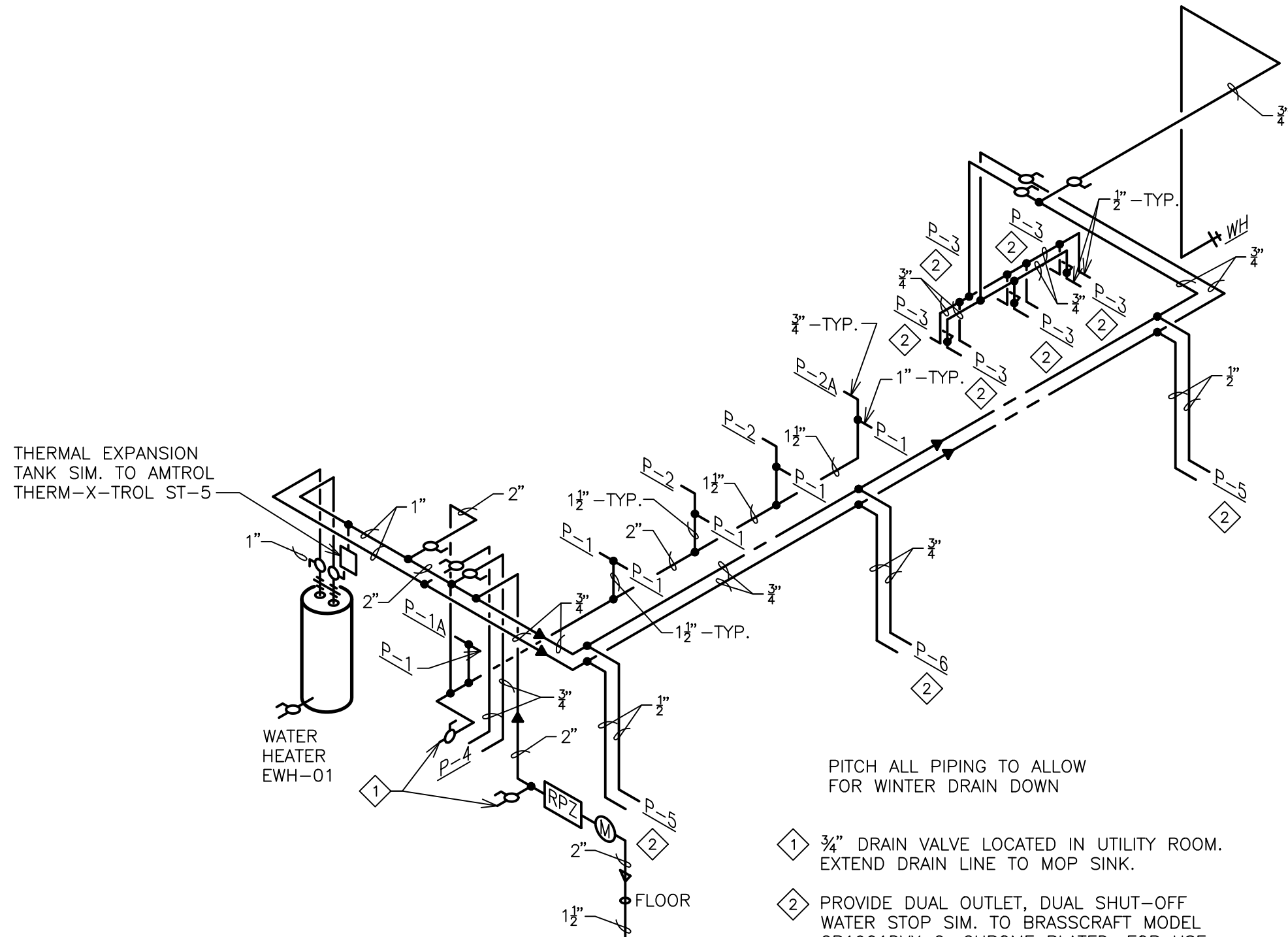
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HVAC PLAN

SHEET NO.
M3.0

SHEET 4 OF 6

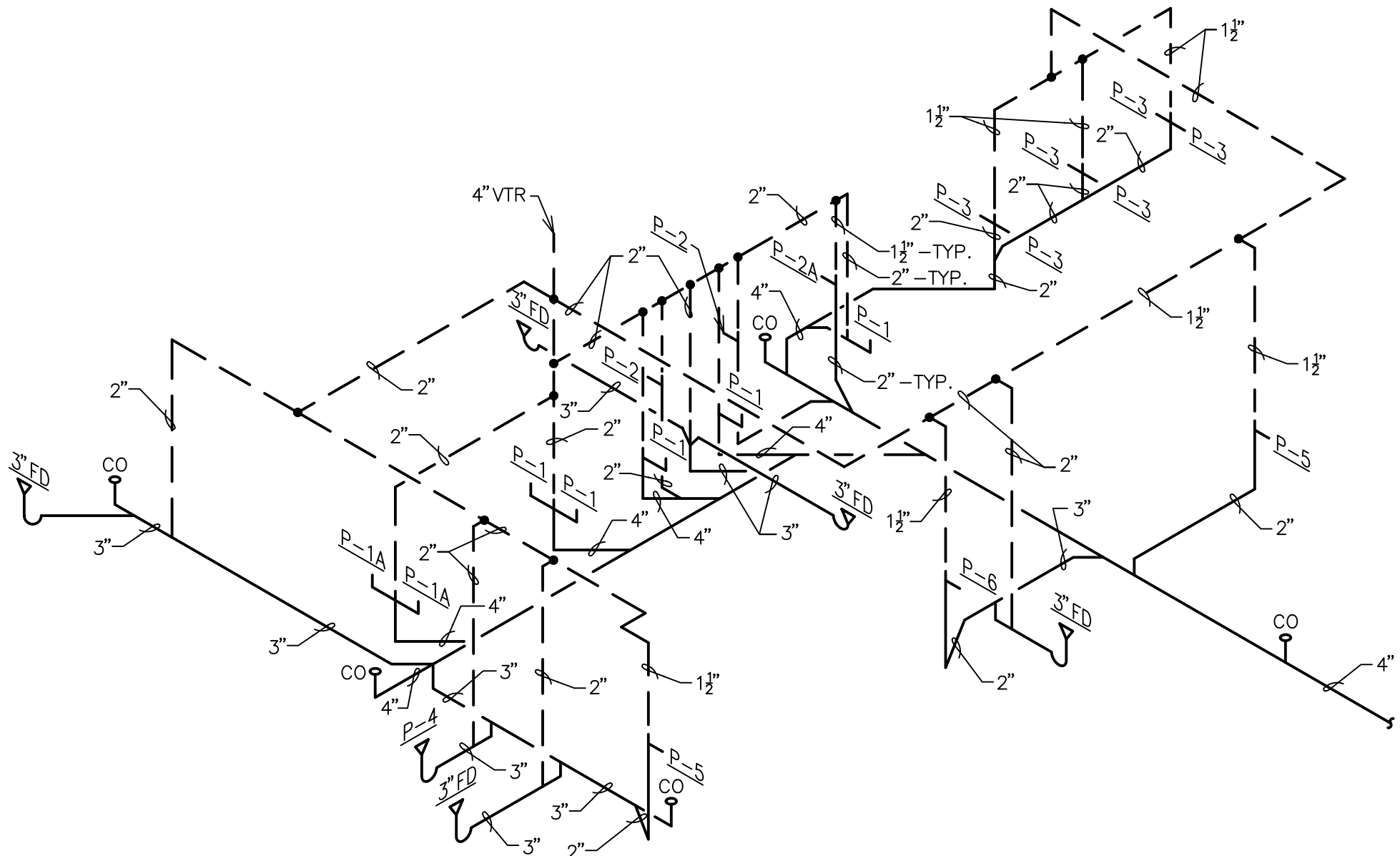


PITCH ALL PIPING TO ALLOW FOR WINTER DRAIN DOWN

- 1 3/4" DRAIN VALVE LOCATED IN UTILITY ROOM. EXTEND DRAIN LINE TO MOP SINK.
- 2 PROVIDE DUAL OUTLET, DUAL SHUT-OFF WATER STOP SIM. TO BRASSCRAFT MODEL CR1901DVX C, CHROME PLATED, FOR USE DURING WINTER DRAIN DOWN. REMOVE HANDLES ON OUTLET POINTING DOWN. TURN HANDLES OVER TO OWNER.

1 PLUMBING RISERS

NTS



WASTE

PLUMBING FIXTURE SCHEDULE

FIXTURE TAG	FIXTURE DESCRIPTION	MOUNTING	ADA	FIXTURE	TRIM	STOP	TRAP	WASTE (IN)	TRAP (IN)	VENT (IN)	CW (IN)	HW (IN)	MECHANICAL NOTES
P-1	WATER CLOSET	FLOOR	NO	AMERICAN STANDARD MADERA FLOWISE 2234.001, 15" HIGH, ELONGATED BOWL, FLOOR MOUNT, TOP SPUD, WHITE.	SLOAN FLUSHOMETER MODEL ROYAL 111-1.28, 1.28 GPF LOW CONSUMPTION, ANGLE STOP, 1" IPS, TOP SPUD, NON-HOLD OPEN HANDLE, POLISHED CHROME	INTEGRAL ANGLE STOP ON FLUSH VALVE	INTEGRAL	4"	NA	2"	1 1/2"	NA	PROVIDE OPEN FRONT WHITE SEAT EQUAL TO OLSONITE 95SSCT. FLUSH VALVE HANDLE TO BE ON THE APPROACH SIDE OF THE WATER CLOSET.
P-1A	WATER CLOSET	FLOOR	YES	AMERICAN STANDARD MADERA FLOWISE 3043.001, 16.5" HIGH, ELONGATED BOWL, FLOOR MOUNT, TOP SPUD, WHITE.	SLOAN FLUSHOMETER MODEL ROYAL 111-1.28, 1.28 GPF LOW CONSUMPTION, ANGLE STOP, 1" IPS, TOP SPUD, NON-HOLD OPEN HANDLE, POLISHED CHROME	INTEGRAL ANGLE STOP ON FLUSH VALVE	INTEGRAL	4"	NA	2"	1 1/2"	NA	PROVIDE OPEN FRONT WHITE SEAT EQUAL TO OLSONITE 95SSCT. FLUSH VALVE HANDLE TO BE ON THE APPROACH SIDE OF THE WATER CLOSET.
P-2	URINAL	WALL	NO	AMERICAN STANDARD WASHBROOK 6590.001EC, WALL MOUNT, FLUSHING RIM, TOP SPUD, WHITE.	SLOAN FLUSHOMETER MODEL ROYAL 186-0.5, 0.5 GPF LOW CONSUMPTION, ANGLE STOP, 3/4" IPS, TOP SPUD, NON-HOLD OPEN HANDLE, POLISHED CHROME	INTEGRAL ANGLE STOP ON FLUSH VALVE	INTEGRAL	2"	NA	1 1/2"	3/4"	NA	
P-2A	URINAL	WALL	YES	AMERICAN STANDARD WASHBROOK 6590.001EC, WALL MOUNT, FLUSHING RIM, TOP SPUD, WHITE.	SLOAN FLUSHOMETER MODEL ROYAL 186-0.5, 0.5 GPF LOW CONSUMPTION, ANGLE STOP, 3/4" IPS, TOP SPUD, NON-HOLD OPEN HANDLE, POLISHED CHROME	INTEGRAL ANGLE STOP ON FLUSH VALVE	INTEGRAL	2"	NA	1 1/2"	3/4"	NA	
P-3	LAVATORY	WALL	YES	AMERICAN STANDARD LUCERNE 0355.012, 18.25"x20.5", WALL HUNG, CONCEALED ARM SUPPORT, VITREOUS CHINA WHITE.	MOEN CHATEAU, L4601 SERIES, SINGLE LEVER HANDLE, LESS WASTE, 1.2 GPM, POLISHED CHROME	McGUIRE QUARTER TURN BRASS BALL VALVE POLISHED CHROME PLATED CAST BRASS ANGLE VALVE KITS, LOOSE KEY, FLEXIBLE RISERS, ESCUTCHEONS	McGUIRE 1-1/4"x1-1/4" CAST BRASS CHROME PLATED "P" TRAP; EXTEND TO WALL WITH ESCUTCHEON.	1 1/2"	1 1/2"	1 1/2"	1"	1"	PROVIDE MOLDED COVERING FOR WATER & WASTE PIPING EQUAL TO TRUEBRO "LAV GUARD 2". PROVIDE McGUIRE CAST BRASS CHROME PLATED TAILPIECE & OPEN GRID STRAINER.
P-4	MOP BASIN	FLOOR	YES	MUSTEE 63M MOP BASIN, 24"x24"x10" HIGH, MOLDED STONE	CHICAGO FAUCET 897-RCF, WALL MOUNTED, VACUUM BREAKER SPOUT WITH HOSE THREAD, PAIL HOOK & SUPPORT, LEVER HANDLES, QUATURN COMPRESSION CARTRIDGE, ROUGH CHROME FINISH	PROVIDE SHUTOFF & CHECK VALVES ON BRANCH PIPING	CONTRACTOR PROVIDED P-TRAP	3"	3"	2"	3/4"	3/4"	PROVIDE No. 63.401 VINYL BUMPER GUARDS ON EXPOSED SIDES, No. 65.700 HOSE & BRACKET, No. 65.600 MOP HANGER
P-5	HAND SINK	WALL	YES	ADVANCE TABCO 7-PS-60, 304 SS, 17.25"x15.25", WITH SPLASH MOUNTED GOOSENECK FAUCET	SPLASH MOUNTED GOOSENECK FAUCET WITH LEVER HANDLES AND BASKET STRAINER INCLUDED WITH FIXTURE	McGUIRE QUARTER TURN BRASS BALL VALVE POLISHED CHROME PLATED CAST BRASS ANGLE VALVE KITS, LOOSE KEY, FLEXIBLE RISERS, ESCUTCHEONS	McGUIRE 1-1/4"x1-1/4" CAST BRASS CHROME PLATED "P" TRAP; EXTEND TO WALL WITH ESCUTCHEON.	1 1/2"	1 1/2"	1 1/2"	1"	1"	PROVIDE MOLDED COVERING FOR WATER & WASTE PIPING EQUAL TO TRUEBRO "LAV GUARD 2". PROVIDE McGUIRE CAST BRASS CHROME PLATED TAILPIECE.
P-6	DOUBLE BOWL SINK	COUNTER - DROP IN	NO	ELKAY DLR432212, 18 GAUGE, TYPE 304 STAINLESS STEEL, 43"x22" OVERALL, TWO 19"x16"x12" DEEP BOWLS, 3 HOLES, SOUND DEADENED.	MOEN CHATEAU, 7425 SERIES, SINGLE LEVER HANDLE, LESS SPRAY, 1.5 GPM, POLISHED CHROME	McGUIRE QUARTER TURN BRASS BALL VALVE POLISHED CHROME PLATED CAST BRASS ANGLE VALVE KITS, LOOSE KEY, FLEXIBLE RISERS, ESCUTCHEONS	McGUIRE 1-1/2"x1-1/2" CAST BRASS CHROME PLATED "P" TRAP; EXTEND TO WALL WITH ESCUTCHEON.	2"	1 1/2"	1 1/2"	1"	1"	PROVIDE McGUIRE CAST BRASS CHROME PLATED TAILPIECE & LK-35 DUO STRAINERS.

MECHANICAL NOTES:

1.

ELECTRIC WATER HEATER SCHEDULE

MECHANICAL

EQUIPMENT TAG	APPLICATION	WATER			HEATING CAPACITY (kW)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
		STORAGE CAPACITY (GAL)	RECOVERY RATE (GPH)	TEMPERATURE RISE (F)				
EWH 01	DOMESTIC	50	46	80	9	A.O. SMITH	DEN-52	-

MECHANICAL NOTES:

1.

ELECTRICAL

EQUIPMENT TAG	HP/LOAD	VOLTAGE	PHASE	CONTROLLER				DISCONNECT AT MOTOR					PANEL	CIRCUIT NUMBER	CONDUIT/FEEDER SIZE	ELECTRICAL NOTES
				TYPE	FURNISHED BY/ INSTALLED BY	LOCATION	CTRL WIRE BY	AMPS/TYPE	FUSE SIZE (AMPS)	NEMA TYPE	FURNISHED BY/ INSTALLED BY	LOCATION				
EWH 01	X	240	1	THERMOSTAT	DIV 22	INTEGRAL	MANUFACTURER	NA	NA	NA	NA	NA	P1	6,8	3/4" C, 2#8 & 1#10 GND	1,2

GENERAL ELECTRICAL NOTES:

A. WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION.

CONTROLLER TYPES:

VFD - VARIABLE FREQUENCY MOTOR CONTROLLER
MMS - MANUAL MOTOR STARTER (WITH OVERLOADS)
CP - CONTROL PANEL

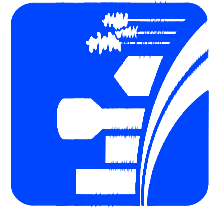
MAGS - MAGNETIC STARTER
MRS/MS - MOTOR RATED SWITCH (WITHOUT OVERLOADS)
VFD/MAGS - VFD WITH BYPASS OPTION AND EXTERNAL STARTER

ELECTRICAL NOTES:

1. NO DISCONNECT NEEDED, EQUIPMENT WITHIN SITE OF ELECTRICAL PANEL.
2. VERIFY VOLTAGE PENDING ACCEPTANCE OF ELECTRICAL SERVICE ALTERNATE.



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Robert K. Gelle
Robert K. Gelle
DATE: 06/15/2016 LIC. NO. 23575

DATE	REV#	REVISIONS DESCRIPTION	BY
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DATE: JUNE 15, 2016	SCALE: SEE PLAN
DRAWN BY: MJS	CHECKED BY: RKG
SUB NUMBER: 1216027-000-00	


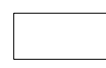
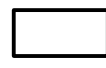






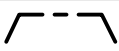


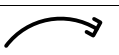





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
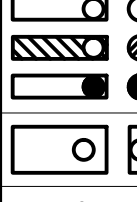
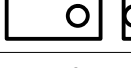




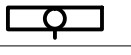
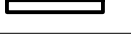



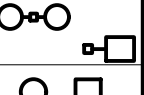

























PLUMBING RISERS AND SCHEDULES










SHEET NO.
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SHEET 5 OF 6

ELECTRICAL SYMBOLS AND ABBREVIATIONS

SYMBOL		DESIGNATION	MTG HT
<h2 style="text-align: center;">SYMBOL SCHEDULE NOTES</h2>			
<p>A. THESE SYMBOLS COMPRISE A STANDARD LIST; NOT ALL SYMBOLS MAY APPEAR ON THESE DRAWINGS.</p> <p>B. MOUNTING HEIGHTS INDICATED ARE STANDARD. DIMENSIONAL NUMBERS INDICATED AT DEVICES SHALL OVERRIDE THESE STANDARDS. MOUNTING HEIGHTS ARE TO THE CENTER OF THE DEVICE, UNLESS NOTED OTHERWISE.</p> <p>C. MOUNTING HEIGHTS INDICATED ARE FOR STUD WALL CONSTRUCTION. WHEN BLOCK OR BRICK CONSTRUCTION IS USED, ADJUST MOUNTING HEIGHTS TO ALIGN DEVICE PLATES WITH RUNNING JOINT.</p> <p>D. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.</p>			
<h2 style="text-align: center;">GENERAL</h2>			
	HEAVY DASHED LINE WEIGHT INDICATES EXISTING ITEM TO BE REMOVED		
	LIGHT SOLID LINE WEIGHT INDICATES EXISTING ITEM TO REMAIN		
	HEAVY SOLID LINE WEIGHT INDICATES NEW ITEM OR NEW LOCATION		
R	REMOVE EXISTING ITEM		
RL	REMOVE EXISTING ITEM AND RELOCATE AS INDICATED		
X	EXISTING ITEM TO REMAIN		
NL	NEW LOCATION FOR RELOCATED ITEM		
<h2 style="text-align: center;">NOTES & TAGS</h2>			
	EQUIPMENT IDENTIFICATION TAG – SEE EQUIP SCHEDULES		
	FEEDER SIZE TAG – SEE POWER RISER FEEDER SCHEDULE		
	ELEC EQUIP CONNECTION TAG – SEE EQUIP SCHEDULES		
	KEYNOTE		
	MISCELLANEOUS NOTE		
<h2 style="text-align: center;">RACEWAYS</h2>			
	CONDUIT CONCEALED IN THE CEILING OR WALLS		
	CONDUIT CONCEALED IN THE FLOOR OR BELOW		
	CONDUIT EXPOSED ON THE CEILING OR WALLS		
	CONDUIT BURIED UNDERGROUND (# = DEPTH)		
	CONDUIT WITH BEND DOWN		
	CONDUIT WITH BEND UP		
	CONDUIT WITH BUSHED END		
	CONDUIT WITH BREAK OR CONTINUATION		
	CIRCUIT HOME RUN – L1 INDICATES PANEL – NUMBERS INDICATE CIRCUITS		
	CONDUCTOR COUNT – UNLESS NOTED OTHERWISE / SHORT HASH INDICATES 1#12 LINE / LONG HASH INDICATES 1#12 NEUTRAL / HASH W/ DOT INDICATES 1#12 GROUND		
	PULL BOX, SIZE AS NOTED		
	JUNCTION BOX – WALL/CEILING MOUNT		
	WIREWAY, DUCT BANK, OR FLOOR DUCT; AS NOTED		
	CABLE TRAY, TYPE/SIZE AS INDICATED		

SYMBOL	DESIGNATION	MTG HT
LIGHTING		
	LIGHT FIXTURE ID – REFER TO LT FIXT SCHEDULE (FIXT SCHEDULE OVERRIDES SYMBOL ABBREVIATION) A – INDICATES LIGHT FIXTURE TYPE # – INDICATES CIRCUIT NUMBER b – INDICATES SWITCHING	
	LIGHT FIXTURE CIRCUIT TYPE – NO HATCH INDICATES NORMAL CIRCUIT – ANGLED HATCH INDICATES CRITICAL CIRCUIT – SOLID HATCH INDICATES LIFE SAFETY CIRCUIT	
	TROFFER TYPE LIGHT FIXTURE, SIZE AS INDICATED – CEILING MOUNT	
	CHANNEL OR INDUSTRIAL, LENGTH AS INDICATED	
	DOWNLIGHT CLG FIXT, RECESSED OR SURFACE MNT	
	CEILING WALL WASH FIXT, AIMED AS INDICATED	
	SMALL WALL MOUNT FIXTURE OR SCONCE	VERIFY
	LINEAR WALL MOUNT FIXT, LENGTH AS INDICATED	VERIFY
	UNDER CABINET FIXTURE, LENGTH AS INDICATED	
	TRACK FIXTURE, NUMBER OF HEADS AS INDICATED	
	EMERGENCY BATTERY LIGHT – WALL/CLG MNT	VERIFY
	EXIT LIGHT, FILLED QUADRANT INDICATES FACES – WALL/CEILING MOUNT	VERIFY
	SITE LIGHTING POLE FIXT, ROUND/RECTANGLE HEAD NUMBER OF HEADS AS INDICATED	
	SITE LIGHTING POLE TOP FIXT, ROUND/RECT HEAD	
	SPORTS LIGHTING ASSEMBLY	
POWER		
	BRANCH CIRCUIT PANEL	VERIFY
	DISTRIBUTION PANEL OR SWITCHBOARD	VERIFY
	EQUIPMENT CABINET	VERIFY
	TRANSFORMER	VERIFY
	MOTOR OR MOTOR CONNECTION	VERIFY
	MOTOR CONTROLLER, STARTER, OR VFD	VERIFY
	COMBINATION STARTER & DISCONNECT SWITCH	VERIFY
	DISCONNECT SWITCH	VERIFY
	MOTOR RATED TOGGLE SWITCH	VERIFY
	MANUAL MOTOR STARTER SW W/THERM OVERLOAD	VERIFY
	SINGLE RECEPTACLE – WALL/CEILING MOUNT	18"
	DUPLEX RECEPTACLE – WALL/CEILING MOUNT	18"
	EMERGENCY DUPLEX RECEPTACLE – WALL MOUNT	18"
	SPLIT WIRED DUPLEX RECEPTACLE – WALL MOUNT	18"
	QUADPLEX RECEPTACLE – WALL MOUNT	18"
	EMERGENCY QUADPLEX RECEPTACLE – WALL MOUNT	18"
	GFI RECEPTACLE, DUPLEX/QUADPLEX – WALL MOUNT	18"
	CLOCK RECEPTACLE – WALL MOUNT	96"
	SPECIAL PURPOSE RECEPTACLE – WALL/CLG MNT	18"
	FLOOR BOX – DEVICES AS INDICATED	
	POWER POLE – DEVICES AS INDICATED	
	MULTIOUTLET ASSEMBLY – DEVICES AS INDICATED	VERIFY
	GROUND REF BUS, AS NOTED – WALL/CLG MNT	VERIFY

SYMBOL	DESIGNATION	MTG HT
SWITCHES & CONTROLS		
\$	SINGLE POLE TOGGLE SWITCH	48"
\$ ²	DOUBLE POLE TOGGLE SWITCH	48"
\$ ³	THREE WAY TOGGLE SWITCH	48"
\$ ⁴	FOUR WAY TOGGLE SWITCH	48"
\$ ³	TOGGLE SWITCH – "a" INDICATES SWITCHING	48"
\$ _L	PILOT LIGHT TOGGLE SWITCH	48"
\$ ^L	ILLUMINATED TOGGLE – TOGGLE SWITCH	48"
\$ ^K	KEYED SWITCH	48"
\$ ^{MC}	MOMENTARY CONTACT TOGGLE SWITCH	48"
\$ ^T	TIMER SWITCH	48"
 #	DIMMER SWITCH (# = WATTAGE)	48"
	OCCUPANCY/VACANCY SENSOR – WALL/CLG MOUNT	12" BFC
\$ ^{OC}	OCCUPANCY SENSOR WALL SWITCH	48"
	PHOTO ELECTRIC CELL	VERIFY
	TIME CLOCK	60"
	CONTACTOR	60"
	RELAY	VERIFY
	BADGE READER	VERIFY
	ELECTRIC THERMOSTAT	60"
	PUSH–BUTTON STATION – BUTTONS AS INDICATED	48"

ELECTRICAL ABBREVIATIONS	
A, AMP	AMPERES
AA	AUDIBLE ALARM
AC	ABOVE COUNTER
ADD	ADDENDUM
AFC	AVAILABLE FAULT CURRENT
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ANT	ANTENNA
ATS	AUTOMATIC TRANSFER SWITCH
BAS	BUILDING AUTOMATION SYSTEM
BFC	BELOW FINISHED CEILING
BPS	BOLTED PRESSURE SWITCH
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TV
CKT	CIRCUIT
CU	COPPER
DN	DOWN
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRIC or ELECTRICAL
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EP	ELECTRIC PNEUMATIC
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
F	FUSE or FUSED
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FSD	FIRE-SMOKE DAMPER
FV	FILM VIEWER
G, GND	GROUND
GFI	GROUND FAULT INTERRUPTER
IG	ISOLATED GROUND
JBOX	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT-AMP
KW	KILOWATT
KWH	KILOWATT-HOUR
MC	MOMENTARY CONTACT
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUG ONLY
MRS	MOTOR RATED SWITCH
MSB	MAIN SWITCHBOARD
MT	EMPTY
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NL	NEW LOCATION FOR RELOCATED ITEM
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
PB	PULL BOX
PB	PUSH-BUTTON
PE	PNEUMATIC ELECTRIC
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
PRI	PRIMARY
R	REMOVE EXISTING ITEM
RECEPT	RECEPTACLE
REFG	REFRIGERATOR
RL	REMOVE EXISTING ITEM AND RELOCATE AS INDICATED
RTU	ROOF TOP UNIT
SEC	SECONDARY
SPKR	SPEAKER
SW	SWITCH
SWBD	SWITCHBOARD
TEL	TELEPHONE
TR	TAMPER RESISTANT
TSTAT	THERMOSTAT
TYP	TYPICAL
UC	UNDER COUNTER
UG	UNDERGROUND
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VA	VOLT-AMP
VAC	VOLTS ALTERNATING CURRENT
VDC	VOLTS DIRECT CURRENT
W	WATT OR WIRE
WP	WEATHERPROOF
X	EXISTING ITEM TO REMAIN
XFMR	TRANSFORMER
NOTE: REFER TO MOTOR AND EQUIPMENT SCHEDULES FOR ADDITIONAL MOTOR ABBREVIATIONS.	

ELECTRICAL SHEET INDEX:	
E0.0	ELECTRICAL COVER SHEET
E1.0	LIGHTING PLAN
E2.0	POWER PLANS
E3.0	ELECTRICAL SPECIFICATIONS
E3.1	ELECTRICAL SPECIFICATIONS



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HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT
WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND
THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA.

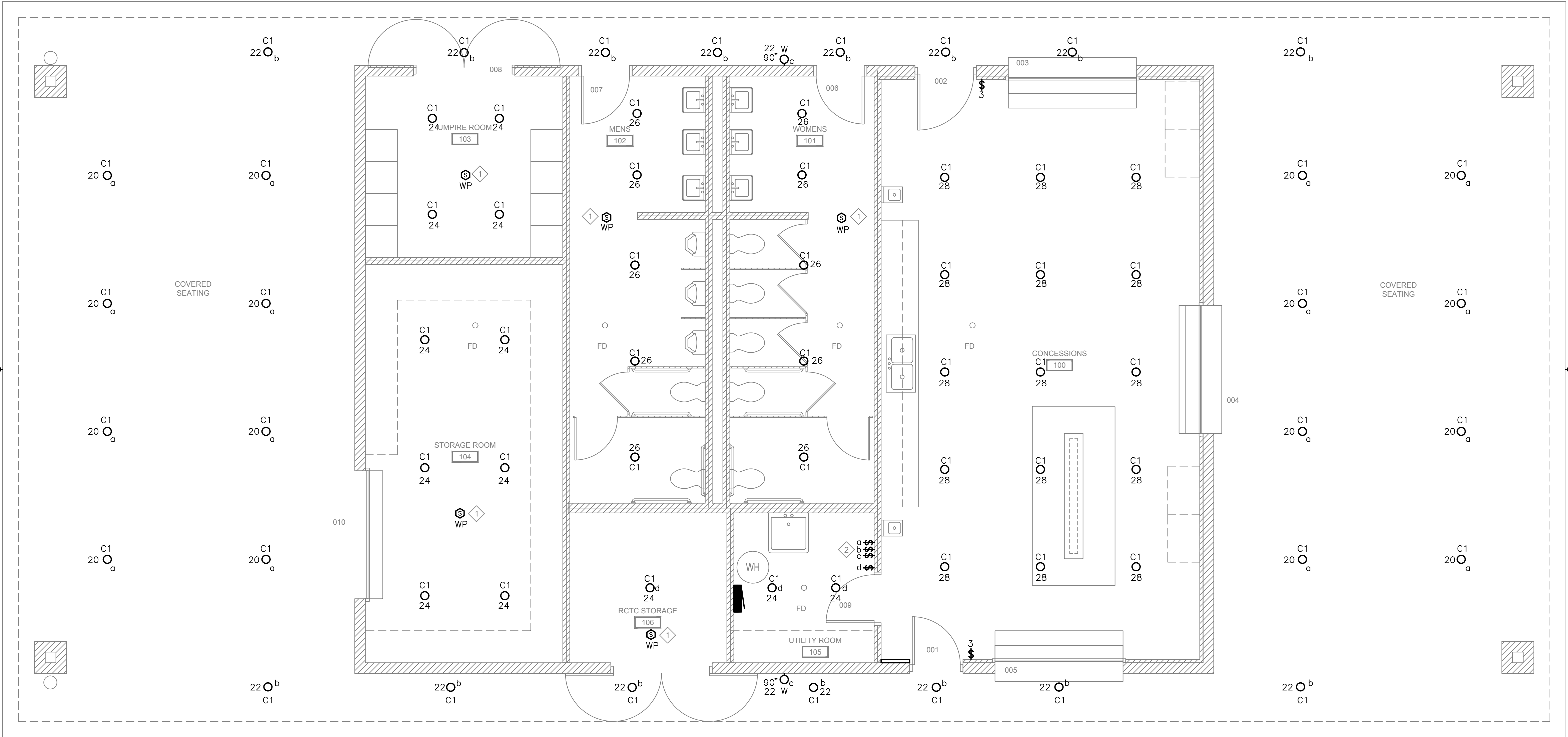
Dustin Mueller

DATE	REV#	REVISIONS DESCRIPTION	BY
08/15/2016		CD ISSUE	

DATE:	JUNE 15, 2016
SCALE:	SEE PLAN
DRAWN BY:	DDM
CHECKED BY:	BMW

RYFSA SPORTS COMPLEX
ROCHESTER COMMUNITY AND TECHNICAL COLLEGE
ROCHESTER, MINNESOTA
ELECTRICAL COVER SHEET

SHEET NO.
E0.0



1 LIGHTING PLAN
1/4" = 1'-0"

LIGHTING SCHEDULE				
FIXTURE TYPE	MANUFACTURER/ CATALOG	LAMP	VOLTAGE	NOTES
C1	WILLIAMS R60-90-PAR38/MED-CS OR EQUAL	CREE LED 90W REPLACEMENT 1500 LUMEN PAR38 OR APPROVED EQUAL	120V	2
W	LITHONIA TWR1LED-1-40K-MVOLT-PE-XX OR APPROVED EQUAL	32W, 2533 LUMEN, 4000K LED	120V	1
W1	LITHONIA DSXW1LED-20C-700-40K-TFTM-120-XX-PE OR APPROVED EQUAL	47W, 4761 LUMEN, 4000K LED	120V	1
NOTES: 1. COORDINATE FIXTURE COLOR WITH ARCHITECT. 2. VERIFY LAMPS PROVIDED FIT FIXTURE PRIOR TO PURCHASE OF FIXTURE.				

- KEY NOTES:
- 1 PROVIDE A WEATHER RESISTANT DUAL TECHNOLOGY OCCUPANCY SENSOR. PROVIDE THE NUMBER OF SENSORS REQUIRED TO PROVIDE SUFFICIENT COVERAGE TO THE AREA IN WHICH IT IS INSTALLED. SET TIME-TO-OFF AT 15 MINUTES.
 - 2 PROVIDE SWITCH CONTROL FOR EXTERIOR LIGHTS IN THIS LOCATION. MOUNT SWITCHES AT 66". SWITCH "c" TO BE CONTROLLED TO OFF WHEN TYPE "b" FIXTURES ARE ON.

PART 1 - GENERAL		COMPENSATION DUE TO THE CONTRACTOR.		B. SHOP DRAWINGS SHALL BE DETAILED, DIMENSIONED MANUFACTURERS' DRAWINGS. EACH SET OF DOCUMENTS SHALL LIST THE PROJECT NAME AND ADDRESS, AND CONTRACTOR'S NAME, ADDRESS, AND TELEPHONE NUMBER. AN INDEX PAGE SHALL LIST INDIVIDUALLY THE ITEMS IN THE SUBMITTAL WITH REFERENCES TO TYPE DESIGNATIONS OR OTHER IDENTIFIERS NOTED ON DRAWINGS.		FOLLOWING SYSTEMS AT PANEL AND JUNCTION BOX LOCATIONS WITHIN EACH ROOM AS FOLLOWS:	
1.1 GENERAL CONDITIONS	A. THE GENERAL, SPECIAL, AND OTHER CONDITIONS OF THE ARCHITECTURAL, MECHANICAL, AND VENDOR DOCUMENTS SHALL BE CONSIDERED AN INTEGRAL PART OF THESE ELECTRICAL SPECIFICATIONS.	B. REFERENCE TO "CONTRACTOR" IN THIS SPECIFICATION SHALL MEAN "ELECTRICAL CONTRACTOR (EC)", UNLESS OTHERWISE NOTED. WORK SPECIFIED HEREIN IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.	C. THE LOCATION OF EQUIPMENT OUTLETS AND WIRING SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT OR APPROVED SHOP DRAWINGS PRIOR TO ANY ROUGH IN WORK. NOTIFY ENGINEER OF ANY DISCREPANCIES.	D. DIMENSIONS GIVEN ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. DIMENSIONS, WHETHER CALCULATED OR SCALED, SHALL BE VERIFIED IN THE FIELD.	E. CHECK ACTUAL JOB CONDITIONS BEFORE FABRICATING WORK. COORDINATE WITH OTHER TRADES TO AVOID REWORK DUE TO FIELD CONDITIONS. CHANGES OR ADDITIONS, SUBJECT TO ADDITIONAL COMPENSATION, WHICH ARE MADE WITHOUT WRITTEN AUTHORIZATION AND AN AGREED PRICE, SHALL BE AT THE CONTRACTOR'S RISK AND EXPENSE.	F. COORDINATE ROUTING OF CONDUIT AND WIRE CONCEALED IN WALLS, SOFFITS OR CEILINGS INSTALLED BY THE GENERAL CONTRACTOR. COORDINATE WORK TO CONCEAL ALL CONDUIT AND WIRE.	1. 120/208 VOLT: MARK COVERS WITH PANEL AND CIRCUIT NUMBERS.
1.2 SCOPE OF WORK							
A. FURNISH LABOR, MATERIALS, EQUIPMENT, TOOLS, AND OTHER ITEMS NECESSARY FOR, OR INCIDENTAL TO, INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM AS REQUIRED FOR THIS PROJECT.							
B. ALSO INCLUDE OTHER WORK AND MISCELLANEOUS EQUIPMENT NOT SPECIFICALLY MENTIONED, BUT REASONABLY INFERRED, THAT ARE REQUIRED FOR A FULLY FUNCTIONAL AND TESTED SYSTEM.	C. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW APPROXIMATE LOCATION ONLY. PLACEMENT OF ELECTRICAL EQUIPMENT AND DEVICES SHALL NOT INTERFERE WITH LOCATIONS OR CLEARANCES OF OTHER TRADES' MATERIALS OR EQUIPMENT. COORDINATE THE PLACEMENT OF ELECTRICAL DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS.	D. THE DIRECT ROUTING OF CONDUITS AND WIRING IS NOT ASSURED. EXACT REQUIREMENTS SHALL BE GOVERNED BY THE CONDITIONS OF THE PROJECT SITE. EXTRA LENGTHS OF WIRING OR THE ADDITION OF PULL OR JUNCTION BOXES, ETC., NECESSITATED BY SUCH CONDITIONS, SHALL BE INCLUDED IN THE BID.	E. DRAWING REPRESENTATIONS: CONDUITS, CIRCUITING, DEVICES, SPEAKERS, ETC., SHOWN ON THE DRAWINGS AS EXISTING ARE BASED ON EXISTING PLANS AND MAY NOT BE INSTALLED AS ORIGINALLY SHOWN. VERIFY THE ACCURACY OF THE "EXISTING CONDITIONS" AS SHOWN ON THE DRAWINGS AS THE DEMOLITION WORK PROGRESSES. PERFORM MODIFICATIONS AND ADDITIONS AS NECESSARY TO CORRECT FOR THESE HIDDEN CONDITIONS AND ALLOW FOR THE COMPLETION OF THE WORK.	F. SPARE LAMPS: PROVIDE AN ADDITIONAL 10% OF EACH TYPE OF LAMP USED ON THE PROJECT BUT NO FEWER THAN 8 LAMPS FOR OWNER STORAGE ON SITE.	G. CLEAN AND RE-LAMP EACH LIGHT FIXTURE USED AS TEMPORARY AT END OF CONSTRUCTION.	H. REMOVE THE TEMPORARY INSTALLATION OF ELECTRICAL EQUIPMENT, RACEWAY AND WIRE AT THE END OF THE PROJECT. PATCH AND SEAL SLEEVE OPENINGS.	A. OUTDOOR PHOTOELECTRIC SWITCHES: SOLID STATE WITH DRY CONTACTS AND METAL OXIDE SURGE SUPPRESSOR. LIGHT-LEVEL MONITORING RANGE FROM 1.5 TO 10FC WITH ADJUSTABLE LEVELS FOR ON/OFF CONTROLS.
1.3 DRAWINGS AND DOCUMENTS							
A. THE DRAWINGS AND SPECIFICATIONS FORM A COMPLETE SET OF PLANS FOR THE ELECTRICAL WORK FOR THIS PROJECT. WHAT IS REQUIRED BY EITHER SHALL BE AS BINDING AS IF REQUIRED BY BOTH. IN THE EVENT THE DRAWINGS AND SPECIFICATIONS ARE IN CONFLICT, THE GREATER REQUIREMENT OR COST SHALL BE INCLUDED IN BID, OR IF TIME, A CLARIFICATION WILL BE ISSUED.							
B. BIDDERS SHALL EXAMINE OTHER TRADE AND EQUIPMENT VENDOR DRAWINGS AND SPECIFICATIONS TO AVOID OMISSIONS, DUPLICATIONS, AND TO INSURE COMPLETE INSTALLATION OF ELECTRICAL WORK.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	B. AUTOMATIC LIGHTING CONTROL DEVICES: OPERATION SHALL TURN LIGHTS ON AUTOMATICALLY; LIGHTING SHALL TURN OFF WHEN UNOCCUPIED, WITH A TIME DELAY FOR TURNING LIGHTS OFF ADJUSTABLE OVER A RANGE OF 1 TO 15 MINUTES. FULL ON AUTOMATIC CONTROL SHALL TURN LIGHTS ON WHEN COVERAGE AREA IS OCCUPIED, AND TURN THEM OFF WHEN UNOCCUPIED; WITH A TIME DELAY FOR TURNING LIGHTS OFF, ADJUSTABLE OVER A MINIMUM RANGE OF 1 TO 15 MINUTES.
1.4 CODES, INSPECTIONS, AND FEES							
A. THE COMPLETED ELECTRICAL INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AS WELL AS APPLICABLE FEDERAL, STATE, AND LOCAL CODES, REGULATIONS, AND STANDARDS INCLUDING INTERPRETATIONS BY APPROPRIATE AUTHORITIES HAVING JURISDICTION. WHERE THE DRAWINGS AND SPECIFICATIONS CALL FOR WORKMANSHIP OR MATERIALS IN EXCESS OF CODE OR REGULATORY REQUIREMENTS, THE DRAWINGS AND SPECIFICATIONS SHALL GOVERN.							
B. THE WORK SPECIFIED HEREIN SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY STATE AND LOCAL AUTHORITIES HAVING JURISDICTION AND THE ENGINEER. THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	1. OCCUPANCY SENSOR: WALL OR CEILING MOUNT AS INDICATED ON PLANS. DUAL TECHNOLOGY SOLID STATE OCCUPANCY SENSOR WITH SEPARATE POWER PACK, WEATHER PROOF TYPE RATED FOR OUTDOOR USE.
1.5 JOB SITE SAFETY							
A. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL JOB SITE SAFETY, INCLUDING SAFETY OF PEOPLE AND PROPERTY DURING PERFORMANCE OF WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.							
B. NO ACT, DRAWING REVIEW OR CONSTRUCTION REVIEW BY THE OWNER, THE ENGINEERS OR THEIR CONSULTANTS, IS INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	C. WALL BOX OCCUPANCY SENSORS: ADAPTIVE TECHNOLOGY WITH TIME DELAY, QUANTITY OF INTEGRAL SWITCHES AS SHOWN ON THE DRAWINGS (MINIMUM OF ONE (1) SWITCH).
1.6 CONDITIONS AT THE SITE							
A. EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING BUILDING CONDITIONS AND LIMITATIONS PRIOR TO SUBMITTING BID. NO EXTRA PAYMENT WILL BE ALLOWED FOR WORK REQUIRED BECAUSE OF THESE CONDITIONS, OR IF INFORMATION IS VISIBLE OR READILY ATTAINABLE, FOR ANY LIMITATION OR MISUNDERSTANDING OF EXISTING CONDITIONS.							
B. ANY DISCREPANCIES FROM THESE DOCUMENTS SHOULD BE REPORTED TO THE ARCHITECT/ENGINEER PRIOR TO BID.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	D. LIGHTING CONTACTORS: ELECTRICALLY OPERATED AND MECHANICALLY HELD, NON- FUSED SWITCH WITH 2 WIRE SOLID STATE CONTROL MODULES.
1.7 WORKMANSHIP AND CONTRACTOR QUALIFICATIONS							
A. INSTALL ELECTRICAL EQUIPMENT AND MATERIALS IN A NEAT AND COMPETENT MANNER BY PERSONS EXPERIENCED AND SKILLED IN THE TRADE. HAPHAZARD OR POOR INSTALLATION WILL BE CAUSE FOR REJECTION OF WORK. EXPOSED COMPONENTS OF THE ELECTRICAL SYSTEMS SHALL BE SQUARE AND TRUE WITH BUILDING LINES AND SURFACES.							
B. CONTRACTOR SHALL BE LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	2.10 PANELBOARDS
1.8 COORDINATION OF WORK							
A. GIVE CAREFUL CONSIDERATION TO THE WORK OF THE GENERAL, MECHANICAL, AND OTHER CONTRACTORS/SUBCONTRACTORS ON THE PROJECT. ORGANIZE AND PHASE THE ELECTRICAL WORK SO THAT IT WILL NOT INTERFERE WITH THE WORK OF OTHER TRADES.							
B. DRAWINGS AND SPECIFICATIONS FOR OTHER TRADES AND GENERAL CONSTRUCTION DRAWINGS SHALL BE CONSULTED FOR COORDINATION INFORMATION, DETAILS, DIMENSIONS, ETC. COORDINATE SHAFTS, CHASES, FURRED SPACES, SUSPENDED CEILING, LOCATIONS OF EQUIPMENT, ETC. THE CONTRACTOR SHALL REVIEW THE MECHANICAL-ELECTRICAL DRAWINGS AND EQUIPMENT DRAWINGS OF OTHER DISCIPLINES, INCLUDING DATA, SECURITY, AUDIO-VIDEO, CLOSED CIRCUIT TELEVISION, PAGING, FIRE ALARM, AND KITCHEN. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ENGINEER, WITH NO ADDITIONAL	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	A. PANELBOARDS: SCHNEIDER ELECTRIC STYLE #NQC (120/208V) FOR 100-400 AMPERE, BY EATON, OR SIEMENS.
1.9 MATERIALS AND EQUIPMENT							
A. UNLESS OTHERWISE SPECIFIED, MATERIAL AND EQUIPMENT SHALL BE NEW AND MANUFACTURED BY APPROVED OR LISTED MANUFACTURERS. MATERIALS AND EQUIPMENT SHALL MEET THE REQUIREMENTS OF GOVERNING CODES.							
B. ALL MATERIAL AND EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITERS LABORATORIES, INC. (UL), AS CONFORMING TO ITS STANDARDS IN EVERY CASE. WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THAT TYPE OF MATERIAL OR EQUIPMENT.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	B. DEAD FRONT SAFETY TYPE WITH ENCLOSURES OF CODE GRADE STEEL. OVERSIZE GUTTERS SHALL BE PROVIDED FOR FEED THROUGH WHERE INDICATED OR REQUIRED, WHERE DOUBLE LUGS ARE NOT PERMITTED BY LOCAL CODE, A SUITABLE PULL BOX OR GUTTER ADJACENT TO PANELS SHALL BE PROVIDED FOR CONNECTIONS.
1.10 TEMPORARY INSTALLATIONS							
A. COMPLY WITH THE OWNER AND GENERAL CONTRACTOR REQUIREMENTS. ELECTRICAL WORK TO BE IN CONFORMANCE WITH NEC ARTICLE 590, TEMPORARY INSTALLATIONS.							
B. CONTINUATION OF SERVICE: EXISTING SERVICE IS NOT REQUIRED TO BE MAINTAINED WHILE CONSTRUCTION IS IN PROGRESS. RESTORE CIRCUITS WIRING WHICH ARE TO REMAIN BUT WERE DISTURBED DURING DEMOLITION BACK TO ORIGINAL CONDITION.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	C. TRIM AND FLAT LOCKING DOORS WITH BOTH HINGES AND TRIM CLAMPS COMPLETELY CONCEALED, DOOR IN DOOR CONSTRUCTION, FLUSH COVER DOOR. LOCKS COMMON KEYED. PROVIDE TWO (2) KEYS FOR EACH PANELBOARD. MOUNT A CLEAR PLASTIC-COVERED TYPEWRITTEN CIRCUIT DIRECTORY IN A CARD HOLDER ATTACHED TO THE INNER SIDE OF THE DOOR. PROVIDE ENGRAVED LAMINATE NAMEPLATES STATING PANELBOARD NAME AND VOLTAGE.
1.11 DEMOLITION							
A. WHERE ELECTRICAL WORK TO REMAIN IS DAMAGED OR DISTURBED IN THE COURSE OF THE WORK, REMOVE DAMAGED PORTIONS AND PROVIDE PRODUCTS OF EQUAL CAPACITY, QUALITY, AND FUNCTIONALITY.							
B. ACCESSIBLE WORK INDICATED TO BE DEMOLISHED: REMOVE EXPOSED ELECTRICAL INSTALLATION IN ITS ENTIRETY. REMOVAL OF EXISTING ELECTRICAL DISTRIBUTION SYSTEM EQUIPMENT INCLUDES EQUIPMENT'S ASSOCIATED WIRING, INCLUDING CONDUCTORS, CABLES, EXPOSED CONDUIT, SURFACE METAL RACEWAYS, BOXES, AND FITTINGS, BACK TO EQUIPMENT'S SOURCE OR AS INDICATED.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	D. 98 PERCENT ELECTROLYTIC COPPER OR 55 PERCENT CONDUCTIVITY ALUMINUM. TERMINALS TO BE IDENTIFICATION SUPPORTED (WITHOUT DEPENDENCE UPON THE CIRCUIT BREAKERS), WHERE BREAKERS AND/OR SWITCHES ARE LISTED IN THE SCHEDULES AS "SPACE ONLY", INCLUDE EXTENDED BUS AND MOUNTING DEVICES.
1.12 CUTTING AND PATCHING							
A. WORKMANSHIP: LAY OUT WORK IN ADVANCE. EXERCISE CARE WHERE CUTTING, CHANNELING, CHASING, OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS, OR OTHER SURFACES IS NECESSARY FOR PROPER INSTALLATION, SUPPORT, OR ANCHORAGE OF CONDUIT, RACEWAYS, OR OTHER ELECTRICAL WORK. REPAIR DAMAGE TO BUILDINGS, PIPING, AND EQUIPMENT USING SKILLED CRAFTSMEN OF TRADES INVOLVED							
B. PERFORM CORE DRILLING, CUTTING AND PATCHING NECESSARY FOR THE COMPLETION OF THE ELECTRICAL WORK FOR THIS PROJECT. NO STRUCTURAL MEMBERS SHALL BE DISTURBED WITHOUT OBTAINING WRITTEN PERMISSION OF THE ENGINEER.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	E. BOLT-ON CIRCUIT BREAKERS WITH BOLTED LINE AND LOAD TERMINALS, QUICK-MAKE, QUICK-BREAK, THERMAL MAGNETIC, COMMON TRIP ON MULTIPOLAR BREAKERS AND A MINIMUM UL SHORT CIRCUIT RATING AS SHOWN ON THE DRAWINGS. EACH BREAKER SHALL HAVE ITS CURRENT RATING ENGRAVED, IN EASY TO READ NUMBERS, ON THE TOGGLE HANDLE. UL LISTED "SWD" SWITCHING DUTY FOR LIGHTING SWITCHING CONTROL. UL LISTED HACR RATED FOR MOTOR OR HIGH INDUCTANCE LOADS.
1.13 SHOP DRAWINGS AND SUBMITTALS							
A. SUBMIT SHOP DRAWINGS FOR ELECTRICAL EQUIPMENT IN *PDF FORMAT. SUBMIT ADDITIONAL HARD COPIES AS REQUIRED BY THE GENERAL CONTRACT. SHOP DRAWING SUBMITTALS SHALL ALLOW FOR A MINIMUM OF SEVEN WORKING DAYS FOR ENGINEER REVIEW.							
B. METAL-CLAD CABLE TYPE MC WITH GREEN GROUND CONDUCTOR ALLOWED ONLY WHERE NOTED IN PART 3 EXECUTION.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	F. 11 WIRING DEVICES
1.14 MAINTENANCE MANUAL AND RECORD DRAWINGS							
A. FURNISH THE OWNER WITH A MINIMUM OF TWO (2) PRINTED COPIES AND TWO (2) DIGITAL DATA DVD'S OF A MANUAL COVERING THE OPERATION AND MAINTENANCE OF EQUIPMENT PROVIDED UNDER THIS CONTRACT. SUBMIT ADDITIONAL COPIES AS REQUIRED BY THE GENERAL CONTRACT. THE MANUALS SHALL BE IN A 3-RING, LOOSE LEAF, HEAVY DUTY BINDER AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL. EACH MANUAL SHALL CONTAIN THE FOLLOWING:							
1. COMPLETE MANUFACTURER CATALOG DATA, MANUFACTURER'S LITERATURE, WIRING DIAGRAMS, DETAILED OPERATING INSTRUCTIONS, AND A COMPLETE LISTING OF SUPPLIERS AND DISTRIBUTORS WHERE REPLACEMENT PARTS AND MAINTENANCE SERVICES ARE AVAILABLE FOR INSTALLED EQUIPMENT. INCLUDE ALL ELECTRICAL SHOP DRAWINGS.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	A. WIRING DEVICES SHALL BE INSTALLED IN METAL DEVICE BOXES.
2. PHYSICAL DESCRIPTION AND INSTALLATION INSTRUCTIONS, USER'S MANUAL AND OPERATING INSTRUCTIONS.							
3. REPLACEMENT PARTS LIST. INCLUDE THE LIGHT FIXTURE SCHEDULE WITH REPLACEMENT LAMPS PER FIXTURE TYPE.							
4. INSPECTION CERTIFICATES, SIGNED BY THE APPROPRIATE INSPECTOR.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	B. SWITCHES AND RECEPTACLES SHALL BE HUBBELL, BRYANT, LEVITON, PASS & SEYMOUR, OR APPROVED EQUAL SUBJECT TO APPROVAL BY THE ENGINEER. COLOR SHALL BE GREY FOR NORMAL POWER AND RED FOR EMERGENCY POWER. SPECIAL COLOR DEVICE OUTLETS AND MATCHING COVERPLATE AS NOTED ON THE PLANS.
5. FULL LISTING OF PRODUCT WARRANTIES AND EXTENDED WARRANTIES WITH REGISTRATION AND CONTACT INFORMATION.							
6. DATA DVD WITH INDEXED PDF DOCUMENTS OF ALL ITEMS IN THE MANUAL.							
B. MARKUP A SET OF CONSTRUCTION DOCUMENTS AS WORK PROGRESSES. SHOW ACTUAL CIRCUIT ROUTING WITH DIMENSIONED INFORMATION, SIZES, TYPES, ETC., EQUIPMENT LOCATION CHANGES, AND ANY OTHER CHANGES OR DEVIATIONS BETWEEN PROJECT WORK, AS BUILT, AND THE CONTRACT DOCUMENTS. MARKINGS SHALL BE NEAT, LEGIBLE, AND PERMANENT. TRANSFER APPLICABLE MARKINGS TO A SECOND SET OF DOCUMENTS AND PROVIDE BOTH SETS OF RECORD DOCUMENTS TO THE OWNER.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	C. SWITCHES SHALL BE HEAVY DUTY GRADE, FEDERAL SPECIFICATION FS, AC QUIET TYPE, 20-AMP, 120/277-VOLT, WITH SILVER ALLOY CONTACTS, EQUAL TO HUBBELL #5362.
1.15 CLEAN-UP							
A. UPON COMPLETION OF THE WORK AND AT OTHER TIMES DIRECTED, REMOVE MATERIALS AND SCRAP GENERATED BY THE ELECTRICAL INSTALLATION AND LEAVE THE PREMISES IN A CLEAN AND ORDERLY CONDITION.							
B. CLEAN ELECTRICAL EQUIPMENT INTERIORS PRIOR TO ENERGIZING AND BEFORE FINAL ACCEPTANCE. CLEAN LIGHT FIXTURES LENSES, REFLECTORS AND TRIMS. REPAIR, CLEAN AND TOUCH UP MINOR SCRATCHES OR BLEMISHES ON FACTORY PAINTED EQUIPMENT.	C. OBTAIN AND PAY FOR LICENSES, PERMITS, FEES, AND CHARGES FOR WORK INSTALLED BY THE CONTRACTOR. THE RESPONSIBILITY TO PAY FOR THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.	D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REMOVE AND REPLACE THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTED PRODUCT.	E. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THROUGHOUT THE CONSTRUCTION AREA, PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS.	F. EXTENDED WARRANTIES OR PRODUCT WARRANTIES EXCEEDING ONE (1) YEAR TO BE PASSED ON TO THE OWNER.	G. INSULATION TYPE: XHHW, XHHW-2, THHW, OR THWN-2, COLOR CODED, COLOR IMPREGNATED WIRE.	H. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (CMIL) AS FOLLOWS:	D. GENERAL PURPOSE DUPLEX RECEPTACLES SHALL BE HEAVY DUTY GRADE, FEDERAL SPECIFICATION FS, NEMA 5-20R, 20-AMP, 125-VOLT, 3-WIRE GROUNDING TYPE DEVICES WITH STEEL ONE PIECE GROUND STRAP; THIRD POLE GROUNDING TO THE OUTLET BOX. HOSPITAL GRADE DUPLEX RECEPTACLES IN PATIENT CARE AREAS DEFINED PER NEC ARTICLE 517. FED SPEC GRADE.
C. DAMAGED, DENTED OR REFURB							

PART 3 - EXECUTION

3.1 GENERAL

A. ELECTRIC SYSTEM LAYOUTS INDICATED ON THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION AND WORK OF OTHER TRADES WILL PERMIT. GOVERN EXACT ROUTING OF CABLE AND WIRING AND THE LOCATIONS OF OUTLETS BY THE STRUCTURE AND EQUIPMENT SERVED. USE DIMENSIONS FROM ARCHITECTURAL DRAWINGS.

B. CONSULT ALL OTHER DRAWINGS, VERIFY SCALES AND REPORT ANY DIMENSIONAL DISCREPANCIES OR OTHER CONFLICTS WITH ARCHITECT BEFORE SUBMITTING BID.

C. ALL HOME RUNS TO PANELBOARDS ARE INDICATED AS STARTING FROM THE OUTLET NEAREST THE PANEL AND CONTINUING IN THE GENERAL DIRECTION OF THAT PANEL. CONTINUE SUCH CIRCUITS TO THE PANEL AS THROUGH THE ROUTES WERE COMPLETELY INDICATED. TERMINATE HOMERUNS OF SIGNAL, ALARM AND COMMUNICATION SYSTEMS IN A SIMILAR MANNER.

D. AVOID CUTTING AND BORING HOLES THROUGH STRUCTURE OR STRUCTURAL MEMBERS WHEREVER POSSIBLE. OBTAIN PRIOR APPROVAL OF STRUCTURAL ENGINEER AND CONFORM TO STRUCTURAL REQUIREMENTS WHEN CUTTING OR BORING THE STRUCTURE IS NECESSARY AND PERMITTED.

E. FURNISH AND INSTALL NECESSARY HARDWARE, HANGERS, BLOCKING, BRACKETS, BRACING, RUNNERS, ETC., REQUIRED FOR EQUIPMENT SPECIFIED UNDER THIS SECTION.

F. PROVIDE NECESSARY BACKING REQUIRED TO INSURE RIGID MOUNTING OF OUTLET BOXES.

3.2 LOW VOLTAGE POWER CONDUCTORS AND CABLES

A. PROVIDE #12 BRANCH CIRCUIT CONDUCTORS FOR 120V, 20 AMP CIRCUITS LESS THAN 75' (100' FOR 277V CIRCUITS). PROVIDE A MINIMUM #10 BRANCH CIRCUIT CONDUCTORS FOR 120V, 20 AMP CIRCUITS OVER 75' (100' FOR 277V CIRCUITS) AND INCREASE CONDUCTOR AND CONDUIT SIZE TO LIMIT VOLTAGE DROP TO 3% MAXIMUM.

B. WHERE MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY (E.G. COMBINING MULTI-CIRCUIT HOMERUNS), CONDUCTOR AMPACITY SHALL BE DE-RATED AS REQUIRED BY THE NEC.

C. PROVIDE DEDICATED NEUTRAL CONDUCTORS FOR EACH 120V AND 277V BRANCH CIRCUIT.

D. FEEDER AND BRANCH CIRCUIT CONDUCTORS TO BE STRANDED COPPER, SINGLE CONDUCTORS IN RACEWAY.

E. MEGGER AND RECORD INSULATION RESISTANCE OF 800 VOLT INSULATED CONDUCTORS SIZE #30 AND LARGER USING 500 VOLT MEGGER FOR ONE MINUTE. MAKE TESTS WITH CIRCUITS ISOLATED FROM SOURCE AND LOAD.

F. METAL CLAD CABLE WITH GREEN GROUND CONDUCTOR ALLOWED ONLY FOR THE FOLLOWING CONDITIONS:

- ABOVE ACCESSIBLE CEILINGS FOR FINAL CONNECTIONS FROM JUNCTION BOXES TO LIGHT FIXTURES NOT EXCEEDING 6' IN LENGTH.
- FINAL CONNECTION NOT EXCEEDING 6' IN LENGTH TO ROTATING OR VIBRATING EQUIPMENT.
- ALLOWED IN CASEWORK OR BUILT UP STRUCTURES WHERE FLEXIBILITY IS REQUIRED.

3.3 GROUNDING AND BONDING

A. THE BUILDING AND ELECTRICAL SYSTEMS SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NEC, IEEE AND BEST PRACTICES.

B. ELECTRICAL SERVICE AND SEPARATELY DERIVED ALTERNATING CURRENT SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250.

C. ALL FEEDER AND BRANCH CIRCUITS SHALL HAVE A GREEN COPPER GROUND CONDUCTOR RUN WITH THE PHASE AND NEUTRAL CONDUCTORS.

D. PROVIDE A MINIMUM #6 COPPER GROUND CONDUCTOR, OR LARGER AS INDICATED ON THE DRAWINGS, AND A 12" GROUND BUS AT TELECOMMUNICATION DEMARCATION LOCATION.

3.4 HANGERS AND SUPPORTS

A. CONDUIT AND CABLE SUPPORT DEVICES TO BE STEEL WITH HANGERS AND SUPPORTS SUITABLE FOR RACEWAY OR CABLE TO BE SUPPORTED.

B. FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES TO BE BOLTED STRUCTURAL STEEL OR STEEL SLOTTED SUPPORT SYSTEMS CALCULATED BY A REGISTERED STRUCTURAL ENGINEER.

3.5 RACEWAYS AND OUTLET BOXES

A. ENCLOSE ELECTRICAL POWER WIRING IN CONDUIT.

B. PERMITTED USES FOR EMT, IMC OR RMC AS FOLLOWS:

- ABOVE GROUND: USE EMT, IMC OR RMC ONLY.
- LOCATIONS SUBJECT TO MECHANICAL INJURY: IMC OR RMC ONLY.
- DRY LOCATIONS AND NOT SUBJECT TO MECHANICAL INJURY: EMT, IMC OR RMC.
- DAMP OR WET LOCATIONS: IMC OR RMC

C. USE FLEXIBLE CONDUITS IN THE FOLLOWING APPLICATIONS:

- RECESSED LIGHTING FIXTURES.
- MOTOR CONNECTIONS.
- AT BUILDING JOINTS.
- IN DAMP OR WET LOCATIONS FLEXIBLE CONNECTIONS TO BE LIQUID TIGHT TYPE.

D. CONDUIT CAST IN CONCRETE FLOORS ARE NOT ALLOWED.

E. CONDUIT BELOW GRADE TO BE PVC OR IMC OR RMC.

F. FITTINGS FOR EMT SHALL BE STEEL COMPRESSION TYPE OR STEEL SET-SCREW TYPE. DIE CAST FITTING ARE NOT ALLOWED.

G. INSTALL NYLON PULL CORDS IN EMPTY CONDUITS.

H. PROVIDE EXPANSION FITTINGS CROSSING EXPANSION JOINTS OR SPANNING BETWEEN ISOLATED STRUCTURES.

I. INSTALL SURFACE RACEWAYS WITH REQUIRED FITTINGS, ACCESSORIES AND DEVICE OUTLETS NOTED ON PLANS.

J. GENERAL CONDUIT INSTALLATION:

- CONDUIT ACCEPTABLE TO BE SURFACE MOUNTED.
- RUN CONDUIT PARALLEL TO OR AT RIGHT ANGLES TO CENTER LINES OF COLUMNS AND BEAMS.
- CONDUITS ABOVE CEILING SHALL NOT OBSTRUCT REMOVAL OF CEILING TILES, LIGHTING FIXTURES, AIR DIFFUSERS, ETC.

K. CONDUIT SUPPORTS:

1. SUPPORT CONDUITS WITH UNDERWRITER'S LABORATORIES LISTED STEEL CONDUIT SUPPORTS AT INTERVALS REQUIRED BY THE NATIONAL ELECTRIC CODE. WIRES OR SHEET METAL STRIPS ARE NOT ACCEPTABLE FOR CONDUIT SUPPORT. USE CONDUIT HANGERS FOR CONDUITS NOT DIRECTLY FASTENED TO STRUCTURE AND FOR MULTIPLE CONDUIT RUNS. DO NOT ATTACH ANY CONDUIT TO MECHANICAL DUCTS OR PIPES.

L. CONDUIT PENETRATION:

- ROOF OR EXTERIOR WALL: AVOID PENETRATING ROOF OR EXTERIOR WALL WHERE POSSIBLE. WHERE PENETRATIONS ARE NECESSARY, BUILDING WEATHERPROOF INTEGRITY MUST BE PRESERVED.

2. NON-FIRE RATED DRY WALL: CONDUIT SLEEVES ARE NOT REQUIRED. PENETRATIONS MUST BE SEALED WITH PLASTER PRIOR TO PAINTING. PENETRATIONS MADE AFTER WALL FINISH IS APPLIED MUST BE AS SMALL AS POSSIBLE AND PROVIDED WITH ESCUTCHEONS, ONE ON EACH SIDE OF WALL.

M. OUTLET BOXES:

1. PROVIDE OUTLET BOXES AND PULL BOXES AS REQUIRED TO ACCOMMODATE LIGHTING AND RECEPTACLE BRANCH CIRCUIT WIRING.

2. OUTLET BOXES MUST NOT BE INSTALLED BACK-TO-BACK.

3. ALL OUTLET BOXES SHALL BE TWO-GANG OR 4" SQUARE X 2" DEEP MINIMUM WITH PLASTER RING SIZED AS REQUIRED.

4. EXTERIOR BOXES FOR BRANCH CIRCUITS TO BE CAST ALUMINUM WITH THREADED HUBS.

3.6 UNDERGROUND RACEWAYS AND BOXES

A. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC, IMC OR RMC BURIED IN EARTH. TRANSITIONS THROUGH CONCRETE SLABS, PRE MANUFACTURED BENDS OR ELBOWS TO BE IMC OR RMC CONDUIT WITH CORROSION PROTECTION.

B. INSTALL UNDERGROUND TRACEABLE, PLASTIC WARNING TAPE 12" ABOVE EACH FEEDER CONDUIT OR GROUPS OF BRANCH CIRCUIT CONDUITS.

C. INSTALL EXTERIOR BRANCH CIRCUIT OR FEEDER HANDHOLES IN LANDSCAPE AREAS. DO NOT INSTALL IN SIDEWALKS, ROADWAYS OR PARKING LOT SUBJECT TO PEDESTRIAN OR VEHICLE TRAFFIC.

3.7 IDENTIFICATION AND LABELING

A. PROVIDE NAMEPLATES FOR SWITCHGEARS, PANELBOARDS, AND SIMILAR DEVICES. NAMEPLATES SHALL BE SCREWED (NO ADHESIVE) ENGRAVED PLASTIC OR PHOTO-ETCHED METALLIC NAMEPLATE IDENTIFICATION SHOWING PANEL DESIGNATION, VOLTAGE AND PHASE.

B. PROVIDE MACHINE LABELS ON LIGHTING SWITCHES AND CONVENIENCE AND SPECIAL PURPOSE RECEPTACLES TO SHOW PANEL AND CIRCUIT NUMBER TO WHICH THE DEVICE IS CONNECTED.

C. PANELBOARD SCHEDULES: AFTER COMPLETION OF WORK, PROVIDE TYPEWRITTEN UPDATED PANELBOARD SCHEDULES IN A METAL FRAMED CIRCUIT DIRECTORY INSIDE EACH PANELBOARD COVER, WITH PLASTIC PROTECTOR.

D. COLOR CODE WIRES AS FOLLOWS:

- VOLTAGE PHASE A PHASE, B PHASE, C PHASE, NEUTRAL, GROUND.
- 120/240V BLACK, RED, WHITE, GREEN.

E. PROVIDE BRADY WIRE MARKERS WHERE NUMBER OF CONDUCTORS IN A BOX EXCEEDS FOUR.

3.8 LIGHTING CONTROL DEVICES

A. CONTROLLERS: FURNISH 120 VOLT POWER TO EACH CONTROL PANEL AND TIME SWITCH REQUIRING A SOURCE OF POWER TO OPERATE.

B. PULL THE CIRCUIT NEUTRAL CONDUCTOR TO ALL LIGHT SWITCHES. PROVIDE DEDICATED NEUTRAL TO EACH INDIVIDUAL CONTROL.

C. TESTING AGENCY: ENGAGE A QUALIFIED TESTING AGENCY TO EVALUATE LIGHTING CONTROL DEVICES AND PERFORM TESTS AND INSPECTIONS. TESTING AGENCY SHALL BE INDEPENDENT OF DESIGN, CONSTRUCTION, AND MANUFACTURE OF EQUIPMENT. PROVIDE FUNCTIONAL TESTING AND CERTIFICATION IN ACCORDANCE WITH THE LATEST EDITION OF ASHRAE 90.1.

3.9 PANELBOARDS

A. WHERE PANELBOARDS ARE FLUSH MOUNTED IN WALLS, PROVIDE A MINIMUM OF 4-1" CONDUITS STUBBED TO AN ACCESSIBLE CEILING ABOVE THE PANEL FOR FUTURE USE.

B. CIRCUIT NUMBERS APPEARING ON DRAWINGS SHALL BE USED FOR REFERENCE ONLY. ACTUAL CONNECTIONS SHALL BE IN ACCORDANCE WITH PHASING OF THE CABINET AND LOAD BALANCE REQUIREMENTS. ROOM NUMBERS OR NAMES USED FOR CIRCUIT IDENTIFICATION SHALL CORRESPONDED TO NAME PLATES INSTALLED ON ROOM DOORS BY THE GENERAL CONTRACTOR OR AS SELECTED BY THE OWNER AND SHALL BE VERIFIED AS THESE MAY NOT BE THE SAME AS ROOM TITLES ON THE DRAWINGS.

C. TOP OF PANELBOARD TUBS SHALL BE 6'-6" ABOVE FINISHED FLOOR.

3.10 WIRING DEVICES

A. FURNISH AND INSTALL WALL PLATES FOR FLUSH MOUNTED WIRING DEVICES AND FLUSH MOUNTED SPECIAL SYSTEM OUTLETS. SECTIONAL WALL PLATES SHALL NOT BE USED. BLANK PLATES SHALL BE INSTALLED OVER OUTLETS PROVIDED FOR FUTURE USE. WALL PLATES SHALL BE SECURED WITH MATCHING SCREWS. ENGRAVED WALL PLATES SHALL HAVE BACK FILL.

B. FURNISH AND INSTALL OUTLETS FOR AND MAKE FINAL ELECTRICAL CONNECTIONS TO ELECTRICALLY POWERED EQUIPMENT INDICATED ON THE PLANS OR EQUIPMENT SCHEDULES.

3.11 ENCLOSED SWITCHES, CIRCUIT BREAKERS AND CONTROLLERS

A. FURNISH AND INSTALL MANUAL THERMAL PROTECTION FOR MOTORS NOT INTEGRALLY EQUIPPED WITH THERMAL PROTECTION.

B. FURNISH AND INSTALL FINAL ELECTRICAL CONNECTIONS TO MOTORS AND ELECTRICALLY POWERED EQUIPMENT INDICATED ON THE PLANS OR EQUIPMENT SCHEDULE.

C. FURNISH AND INSTALL A DISCONNECT SWITCH IMMEDIATELY AHEAD OF AND ADJACENT TO EACH MAGNETIC MOTOR STARTER OR APPLIANCE UNLESS THE MOTOR APPLIANCE IS LOCATED ADJACENT AND WITHIN SIGHT OF THE SERVING PANELBOARD, CIRCUIT BREAKER OR SWITCH. VERIFY EQUIPMENT NAMEPLATE CURRENT RATINGS PRIOR TO INSTALLATION.

D. FURNISH AND INSTALL DISCONNECT SWITCHES HAVING THE NUMBER OF POLES AND AMPERE RATINGS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN EQUIPMENT SCHEDULES.

3.12 SURGE PROTECTIVE DEVICES (SPDS)

A. INSTALLED IN ACCORDANCE WITH NEC ARTICLE 285.

B. INSTALL AN OCPD OR DISCONNECT AS REQUIRED TO COMPLY WITH THE UL LISTING OF THE SPD.

C. INSTALL SPDS WITH CONDUCTORS BETWEEN SUPPRESSOR AND POINTS OF ATTACHMENT AS SHORT AND STRAIGHT AS POSSIBLE, AND ADJUST CIRCUIT-BREAKER POSITIONS TO ACHIEVE SHORTEST AND STRAIGHTEST LEADS. DO NOT SPLICE AND EXTEND SPD LEADS UNLESS SPECIFICALLY PERMITTED BY MANUFACTURER. DO NOT EXCEED MANUFACTURER'S RECOMMENDED LEAD LENGTH. DO NOT BOND NEUTRAL AND GROUND.

D. USE CRIMPED CONNECTORS AND SPLICES ONLY. WIRE NUTS ARE UNACCEPTABLE.

3.13 LIGHTING FIXTURES

A. LIGHTING FIXTURES: SET LEVEL, PLUMB, AND SQUARE WITH CEILINGS AND WALLS COMPLYING WITH NFPA 70 FOR FIXTURE SUPPORTS. PROVIDE LAMPS IN EACH FIXTURE.

B. ADJUST AND AIM LIGHTING FIXTURES TO PROVIDE REQUIRED LIGHT INTENSITIES ON VERTICAL SURFACES OR AT DIRECTIONS NOTED ON DRAWINGS. PROVIDE ADDITIONAL ADJUSTMENTS FOR OWNER PRIOR TO FINAL TURNOVER OR AT SUBSTANTIAL COMPLETION.

C. LIGHTING FIXTURES MOUNTED IN CONTINUOUS ROWS MAY BE END FED WITH ONLY THE CIRCUITS FEEDING THE ROW (PASSING THROUGH OF OTHER CIRCUITS NOT ALLOWED) WITH EACH ROW FED FROM INDIVIDUAL JUNCTION BOXES AT THE END FEED POINT.

D. LIGHTING FIXTURES MUST HAVE INDIVIDUAL FEEDS TO EACH FIXTURE EXCEPT FOR TANDEM FIXTURES. "DAISY-CHAINING" OF FIXTURES NOT ALLOWED. THE LIGHTING FIXTURE WHIPS MUST BE 6-FEET LONG OR LESS.

END OF SECTION



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HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Dustin Mueller
DUSTIN D. MUELLER DATE: 06/15/2016 LIC. NO. 53522

DATE	REV#	REVISIONS DESCRIPTION	BY
06/15/2016		CD ISSUE	

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